STUDIES ON AUSTRALIAN MOLLUSCA. Part XI.

By C. Hedley, F.L.S.

(Plates xvi.-xix.)

(Continued from Vol. xxxiii., p.489.)

Notes in Museums abroad.

During last year (1912), I enjoyed an opportunity of visiting several important conchological collections in Europe and America. At intervals, from May to October, I spent ten weeks in study at that of the Natural History Museum, South Kensington. To its genial custodian, Mr. E. A. Smith, D.S.O., I am greatly indebted for facilitating my work, and for aid in difficulties of nomenclature.

Some impressions of the Conchological department of the British Museum were published in an American Conchological Journal.*

Here, I examined almost every Australian marine gastropod and pelecypod in the collection. Beneath the tablets are valuable notes on synonymy, habitat, and so forth, chiefly the work of Mr. Smith. By his permission, I am enabled to transfer, from this source, much important information to these pages.

Time did not allow me to complete my studies in London. On assembling my notes in Sydney, many points arise which now I should like to re-examine, but for which the opportunity has passed. I was fortunately able to obtain the services of Mr. A. H. Searle. A series of his beautiful drawings, now presented, illustrate thirty hitherto unfigured species, from the types in the British Museum.

For the most part, the present paper is a category and correction of mistakes and confusion. Had the locality been given,

---

* Hedley, Nautilus, xxvi., 1912, pp.85-90.

and a good illustration appeared as each name was introduced, few of the synonyms noted in the following pages would have occurred; and most of those that did, would have been readily detected.

Australian writers have frequently been misled by Tryon, who hastily united species which, though then indefinite in literature, were distinct in nature.

Study on the spot intensified my impression of the damage done to science by the conchological organisation of Hugh Cuming. It is difficult to understand how this illiterate sailor, by mere force of character, could have controlled the leading conchological writers of his time. But that he did so control and debase them, is clear. It is evident that Deshayes, in dealing with material sent by Cuming, surrendered his own clear judgment, exercised no discrimination, and confined himself to "describing" what species Cuming desired to be named as new. Reeve's sweeping criticism of the work of Deshayes on the genus *Terebra*,* explains this. The treatment of Pfeiffer was apparently similar.

Tracing the work of Arthur Adams, with his actual specimens in hand, one is the more impressed by his slovenly and unscientific methods. His papers correct an unusual number of his own clerical errors. He frequently ascribed foreign species to Australia, and Australian species to other continents.

In the Hancock Museum, Newcastle, England, I found an extensive series of Australian shells. George French Angas, the author of so many papers on Australian conchology, who died in London, 4th October, 1886, was the eldest son of George Fife Angas, of Newcastle-on-Tyne.† Most of the types of Australian marine shells described by Angas, or from his collection by Crosse, were given to the British Museum during his lifetime. But at his death, his land-shells were bequeathed to the Museum of his native city. Here I observed the following forty species,

---

* Reeve, Proc. Zool. Soc., 1860, p.448.

† For an autobiographical sketch, see "The Little Journal," London, May, 1884, Vol. i., No.3, pp.230-234.

described either by himself or in conjunction with A. Adams or by Dr. L. Pfeiffer, from the Angas Collection. All these were marked "type."

Bulimus angasianus Pfeiffer, Port Lincoln, S.A.
Helix carcharias Pfr., Shark Bay, W.A.
H. cassandra Pfr., Murray Cliffs, S.A.
H. curtisiana Pfr., Port Curtis, Queensland.
H. cyrtopleura, Pfr., Arrowie, Lake Torrens, S.A.
H. evandaleana Pfr., South Australia.*
H. lincolnensis Pfr., Port Lincoln, S.A.
H. perinflata Pfr , McDonnell Ranges, Centr. Austr.
H. stutchburyi Pfr., Port Elliot, S.A.†
H. zenobia Pfr., "on trees," New Georgia, Sol.
H. anadyomene A.Ad. & Ang., Guadalcanar, Sol.
H. flindersi A.Ad. & Ang., Flinders Range, S.A.
H. patruelis A.Ad. & Ang., Port Lincoln, S.A.
Bulimus brazieri Angas, Sinclair Range, K. G. Sound.
Helix adonis Angas, Bougainville Is., Sol.
H. beatrice Angas, Florida Is., Sol.
H. broughami Angas, Port Lincoln, S.A.
H. cærulescens Angas, Guadalcanar, Sol.
H. coxiana Angas, Ysabel Is., Sol.
H. deidamia Angas, Ysabel Is., Sol.
H. deiopeia Angas, Guadalcanar, Sol.
H. eros Angas, Ysabel Is., Sol.
H. eyrei Angas, Lake Eyre, S.A.
H. forrestiana Angas, N. W. Australia.
H. hermione Angas, Bougainville Is., Sol.
H. howardi Angas, Interior of S. Australia.
H. juanita Angas, Solomon Is.
H. kooringensis Angas, Interior of S.A.
H. lyndi, Angas, Port Essington, N.T.
H. malantensis Angas, Malanta Is., Sol.

---

* Angas notes that *Helix induta* Tate, (Proc. Linn. Soc. N. S. Wales, ii., p.290) from Kaiserstuhl, is identical with *H. evandaleana* Pfr.

† In the British Museum, a different species from Queensland is marked as type of *H. stutchburyi.*

Helix mendana Angas, Bougainville and Stephens Is., Sol.
H. moresbyi Angas, Port Denison, Qsld.
H partunda Angas, Gatera or Russell Is.
H. philomela Angas, Ysabel Is., Sol.
H. phillipsiana Angas, Interior of S.A.
H. psyche Angas, New Georgia, Sol.
H. ramsdeni Angas, Solomons.
H. rossiteri Angas, Ysabel, Sol.
H. rhoda Angas, San Christoval, Sol.
H silveri Angas, Eastern Plains, S.A.

So many Australian shells were named by Lamarck, that his collection has a special interest for us. The Lamarckian types are divided between two cities. Some are contained in the collection of the Museum of the Jardin des Plantes, once under his official care. These are now gathered together, in a room apart, in the Paris Museum.*

The others, included in Lamark's private collection, had a more eventful history. At the sale of Lamarck's books and specimens in 1830, the shells were purchased by the Prince Massena, duc de Rivoli. Afterwards these were transferred to Baron Benjamin Delessert, a wealthy Parisian merchant. It is recorded that Lamarck's conchological collection contained 13,288 species, represented by about 50,000 specimens.†

Baron Delessert enlarged his collection by other acquisitions,‡ and appointed first Kiener, and then Chenu as Curator. From the Delessert Museum, a series of monographs, embracing the whole conchological field, was projected, commenced by Kiener, and, after his death, continued by Chenu. But this magnificent scheme collapsed in 1854, after the issue of a number of broken parts.§

Upon the death of the owner, his brother, Baron F. Delessert, inherited the Collection. At his decease, the heirs presented the

* Joubin, Bull. Mus. Hist. Nat. x., 1904, p.459.

† Chenu, Notice sur le Musée Conchyliologique de M. le Baron Delessert. Paris, 1849.

‡ Dumeril, Compt. Rend., xi., 1840, pp.385-390.

§ Sherborn & Smith, Proc. Malac. Soc., ix., 1911, pp.264-267.

Delessert Collection, in 1869, to the city of Geneva, the native town of the Delesserts.*

When Drs. Quoy and Gaimard referred to the Lamarckian Collection† for the purpose of naming the shells gathered by the Astrolabe Expedition, it was the property of "M. le prince d'Essling."

Deshayes complained that while writing the second edition of the *Animaux sans vertèbres*, he was at first unable to refer to the Lamarckian specimens.‡ But on p.214 of the ninth volume (1843), he remarked that, by the kindness of the new owner of the Collection, Baron B. Delessert, he was then able to consult them.

Davidson acknowledged the generous assistance he received in his study of the Lamarckian brachiopods.§ When he wrote, the Collection had been purchased from Prince Massena by Baron Delessert, and Chenu was then Curator of this "extensive and celebrated Museum."

To examine this celebrated Collection, I visited Geneva, in October, 1912. Dr. M. Bedot, the Director of the Museum, received me most hospitably, and afforded facilities for study. It is pleasant to record how the Lamarckian Collection is held in trust for science, not only in safety but in veneration. It is preserved apart, locked up in four cabinets, and only shown with due precautions. The shells are gummed to wooden tablets, the margins of which are coloured to indicate geographical distribution. Blue, yellow, red, green, and violet indicate, respectively, an European, Asiatic, African, American, or Oceanic habitat. This mounting was probably done by Chenu.‖ Frequently a label in Lamarck's own writing is attached to the tablet. It is intended that photographs of all Lamarck's species will be published by the Museum.

---

* Crosse, Journ. de Conch., xvii., 1869, p.208; Gray, Ann. Mag. Nat. Hist , April, 1869, pp.319 and 396.

† Quoy & Gaim., Zool. Astrolabe, ii., 1833, p.444.

‡ Deshayes, Journ. de Conch., i., 1850, p.418.

§ Davidson, Ann. Mag. Nat. Hist., June, 1850, p.434.

‖ Chenu died at an advanced age, in 1879. Journ. de Conch., xxviii., 1880, p.106.

In the United States, I was most hospitably entertained by American conchologists. At Washington, in the National Museum, Dr. P. Bartsch kindly assisted me to trace the unfigured Australian, or reputed Australian, species described by Dr. A. A. Gould.

The following are detailed notes, mostly from South Kensington :—

NUCULA CONSOBRINA A. Adams & Angas.

(Plate xvi., figs.1, 2, 3.)

Nucula consobrina A. Adams & Angas, Proc. Zool. Soc., 1863, p.427.; *Id.*, Angas, Proc. Zool. Soc., 1867, p.932.

An illustration is here presented of this hitherto unfigured species, reported by its junior author from the Parramatta River and Port Stephens. It is drawn from the type in the British Museum, presented by G. F. Angas, which is 8·5 long, and 7 mm. high.

NUCULA SIMPLEX A. Adams.

(Plate xvi., figs. 4, 5, 6.)

Nucula simplex A. Adams, Proc. Zool. Soc., 1856, p.52; *Id.*, Sowerby, Conch. Icon., xviii., 1870, Pl. iii., f.21; *Id.*, Hanley, Thes. Conch., iii., 1860, p.158, Pl.229, f.137; *Id.*, Angas, Proc. Zool. Soc., 1877, p.193.

Nucula strangei A. Adams, in Hanley, Thes. Conch., iii., 1860, p.158, Pl.229, f.125; *Id.*, Angas, Proc. Zool. Soc., 1867, p.932; *Id.*, Smith, Ann. Mag. Nat. Hist., (6) xvi., 1895, p.16.

Nucula antipodum Hanley, Thes. Conch., iii., 1860, p.159, Pl. 230, f.155.

This species was described as found by F. Strange at Sydney. The figures of it are not good, so I present a drawing of a specimen from the Cuming Collection, labelled *N. simplex*, and probably a type, though not distinguished as such, in length 9·5, in height 7 mm.

After careful examination of the series at South Kensington, I am satisfied that neither *Nucula strangei* nor *N. antipodum* can be separated from *N. simplex*. On the tablet of *antipodum* is written "common in mud at 3 fms., Port Stephens."

Nucula cumingii Hinds.

(Plate xvi., figs.7, 8, 9.)

Nucula cumingii Hinds, Proc. Zool. Soc, 1843, p.97; *Id.*, Hanley, Thes. Conch., iii., 1860, p.157, Pl.29, fig.117.

N. loringi Ad & Angas, Proc. Zool. Soc., 1863, p.427.

It recently occurred to me* that perhaps the unfigured *Nucula loringi* might be an earlier name for *N. superba*. At the British Museum, I found not only that it was quite distinct, but that *N. loringi* had been determined by Mr. Smith to be a synonym of *N. cumingii* Hinds. Under this prior name, the species has not yet been reported from Australia. The type of *N. loringi*, from Keppel Bay, is here figured. It is in length 18, height 12, and diameter of single valve 4 mm

Arca pistachia Lamarck.

Arca pistachia Lamarck, Anim. s. vert, vi., 1819, p.41; *Id.*, Smith, Journ. of Malacol., xii., 1905, p.27; *Id.*, op. cit., liii., 1906, p.303; *Id.*, Lamy, Journ. de Conch., lii., 1904, p.134.

In these Proceedings (xxix, p.202), I suggested that the description of *A. pistachia* agreed with the subsequent *A. radula* Smith, from the same locality; and hence that the latter should be suppressed as a synonym. Mr. Smith dissented from this conclusion. Dr. Lamy has failed to find an example of *A. pistachia* in the Lamarckian Collection of the Paris Museum. I searched, in vain, for a representative of *A. pistachia* in the Lamarckian Collection of the Geneva Museum. Though my interpretation of *A. pistachia* still seems to me a reasonable one, yet, on the grounds that the species has never yet been figured, and that the type has disappeared, I recommend that *Arca pistachia* be written off as a lost species.

Glycymeris fringilla Angas

Axinæa fringilla Angas, Proc. Zool. Soc., 1872, p.612, Pl.40, f.10; *Id.*, Lamy, Journ. de Conch., lix., 1912, p.111, footnote.

In the British Museum, I discovered, what I presume is the type of this species, concealed under the label of "*emberiza*

* Hedley, Rec. Austr. Mus., viii., 1912, p.131.

Angas, type, Port Curtis, G. F. Angas, Esq., Pres." The author apparently exchanged one bird-name for another, when the paper was in course of publication.

GLYCYMERIS HOYLEI Melvill & Standen.

Pectunclus hoylei Melv. and Stand., Journ. Linn. Soc. Zool. xxvii., 1899, p. 187, pl. xi., p. 24.

I have suggested in These Proceedings (xxxi., p. 470) that *G. hoylei* was a synonym of *G. cardiiformis* Angas. Comparing the type of Angas, in the British Museum, with my shell from Mast Head Island, I find them specifically different. *G. cardiiformis* has a finer concentric sculpture, is more inflated, and has a more prominent umbo than my Queensland shell. Dr. E. Lamy considers that *G. cardiiformis* is the Californian *G. multicostatus* Sowerby.*

MODIOLA PULEX Lamarck.

Modiola pulex Lamarck, Anim. s. vert. vi., 1819, p. 112.

Mytilus crassus Tenison-Woods, Papers and Proc. Roy Soc. Tasm., 1876 (1877), p. 157.

In the Lamarckian collection of the Geneva Museum, I noted the types of this species, being four shells labelled in Lamarck's writing: "Modiola pulex nouv. hollande." Small initials were used by Lamarck for place names. Subsequently M. Bedot kindly sent me photographs and comparative notes. By their help, I can identify Lamarck's species with *M. crassus* Ten.-Woods. This latter is generally, but I suggest improperly, united to *M. confusa* Angas. The two have different stations, *M. confusa* occurring in sheltered swamps, but *M. pulex* on exposed beaches. They also have a different contour. *M. confusa* is narrower in proportion to its length, is broader at the umbonal end, is more inflated, and has a longer hinge-line. Again *M. pulex* is bare, and *M. confusa* is meshed in a byssus-web. In New Zealand, there is a corresponding pair of species, *M. ater* Dunker and Zelebor, and *M. fluviatilis* Hutton.

POROMYA ILLEVIS, *nom.mut.*

Ectorisma granulata Tate, Trans. Roy. Soc. S. Aust. xv., 1892, p. 127, pl. i., fig. 3, 3a.

---

* Lamy, Journ. de Conch. lix. 1912, p.95.

It has already been observed that Tate's species is to be transferred to *Poromya*, in which genus the specific name is preoccupied by Nyst.* As the species appears distinct from any I found in the British or other Museums, it now becomes necessary to impose on it a new name.

Thracia cultrata Gould.

Thracia cultrata Gould, Proc. Boston Soc. Nat. Hist. viii.. 1861, p. 14.

This unfigured shell is said to have been taken by W. Stimpson, in 8-15 fathoms, in Port Jackson. I searched in vain for an example of this species in various museums. It is likely that all the specimens gathered were lost in 1871, when Dr. Stimpson's collection, numbering about 8,000 specimens of marine shells, was destroyed in the great fire of Chicago. It is recommended that the name be abandoned as unrecognisable.

Cœlodon aversus, n.sp.

Cœlodon elongatus Hedley (*non* Carpenter), These Proceedings, xxxi., 1906, p. 473, Pl. xxxvii., fig. 16.

From Mast Head Island, I described and figured a shell, which I supposed to be *Cœlodon elongatus* Carpenter, under the impression that no illustration of that species had appeared. This identification was doubted by Dr. H. Lynge,† who also pointed out that Carpenter's shell had been figured by Sowerby as *Pandora elongata.*‡

I can only agree with my critic, that the shell from Mast Head is quite unlike *C. elongatus.* The name of *C. aversus* is accordingly now proposed for it.

Myrtæa venusta Philippi.

(Plate xvi., fig. 10.)

Lucina venusta Philippi, Abbild. Beschr. ii., March, 1847, p. 206, pl. 1, f. 2.

---

* Hedley, Rec. Aust. Mus. vi. 1907, p.302.

† Lynge, D. Kgl. Danske Vidensk. Selsk. Skrifter, 7, l. v., 1909, p.287.

‡ Sowerby, Conch. Icon. xix. 1874, Pandora, Pl. i., f.4.

Lucina strangei A. Adams, Proc. Zool. Soc., 1855 (March, 1856), p. 226.

The accompanying figure is drawn from Adams' type of *Lucina strangei* in the Cuming Collection, gathered by F. Strange, in Moreton Bay. It is a single specimen, with both valves, length 14, height 23, depth of single valve 7·5 mm. Beneath the tablet is a note by Mr. E. A. Smith, declaring it a synonym of *L. venusta* Phil.

Lucina (Codakia) munda A. Adams.

Lucina munda A. Adams, Proc. Zool. Soc., 1855 (1856), p. 225.

I failed to find, in the British Museum, the type or other example of this unfigured species, said to have been taken in Moreton Bay, by F. Strange. It is recommended that the name be rejected as unrecognisable.

Diplodonta globulosa A. Adams.

Diplodonta globulosa A. Adams, Proc. Zool. Soc., 1855, p. 226.

In the Natural History Museum, I failed also to find a specimen of this unfigured species. It is recommended that this name be written off as unrecognisable.

Joannisiella moretonensis Deshayes.

(Plate xvi., figs. 11, 12, 13, 14, 15.)

Cyrenella moretonensis Deshayes, Proc. Zool. Soc., 1854 (1855), p. 341.

An illustration is here presented of the type, in the Natural History Museum, of *C. moretonensis* from Moreton Bay. In length, it is 33·5; in height, 30; and in depth of single valve, 11 mm. In London, it is labelled *Diplodonta,* but *Joannisiella* is here suggested as more appropriate. *J. moretonensis* is also represented by specimens sent from Sarawak, Borneo, by Mr. E. Bartlett.

Lepton cumingii A. Adams.

Pythina cumingii A. Adams, Proc. Zool. Soc., 1856, p. 47; *Id.* Smith, Ann. Mag. Nat. Hist., 1891, p. 233.

Rochefortia excellens Hedley, Rec. Aust. Mus., viii., 1912, p. 134, Pl. xl., f. 5-8.

In the British Museum, the species I lately described as *R. excellens,* from Queensland, is displayed as *Lepton cumingii.*

Cyamiomactra balaustina Gould.

Kellia balaustina Gould, Proc. Bost. Soc. Nat. Hist. viii., 1861, p. 33.

Cyamiomactra nitida Hedley, These Proceedings, xxxiii., 1908, p. 477, Pl. ix., figs. 19, 20.

This species was collected by W. Stimpson, in Sydney Harbour. I was pleased to find the type, a single valve (Reg. No. 305) in the U.S. National Museum, in July, 1912. I recognised, in it, my *Cyamiomactra nitida.* Not to rely on memory, I later sent examples of my species to Washington. Dr. Bartsch replies, 21/5/13, "*Cyamiomactra nitida* Hedley is *Lasæa balaustina* Gld., absolutely."

Solecardia strangei Deshayes.

(Plate xvi., figs. 16, 17, 18, 19.)

Scintilla strangei Deshayes, Proc. Zool. Soc., 1855, (1856), p. 181; *Id.,* Sowerby, Conch. Icon., xix., 1874, Pl. ii., fig. 13.

As the previous illustration of this species is unsatisfactory, I now present a drawing of the type-shell in the British Museum, which is 16.5 long, and 19 mm. high.

Cardium productum Deshayes.

(Plate xvi., figs. 20, 21, 22.)

Cardium productum Deshayes, Proc. Zool. Soc., 1854, (1855), p. 333.

This unfigured species was reported from Torres Straits. Subsequent writers have not dealt with it. The accompanying figure is taken from a Cumingian specimen, probably the type, 15 mm. long; 23 mm. high, and 20 mm. across the conjoined valves. I suggest that *C. productum* is a synonym of *Cardium dionœum* Sowerby.

Dosinia tumida Gray.

Artemis tumida Gray, Analyst, viii., 1838, p. 309.

Even with the large series of the British Museum at my disposal, I found difficulty in arriving at the proper titles of Australian

Dosinia. The species resembles one another so closely, that discrimination is unusually difficult. A considerable proportion remain unfigured. The genus has never been properly revised, and its nomenclature has suffered ill-usage from the associates of Cuming.

Deshayes reduces* *Artemis lamellata* Reeve, 1850, to a synonym of *Dosinia tumida* Gray, 1838. But from Deshayes' type, I consider that *D. nobilis* Deshayes, 1853, is also a synonym of *D. tumida.* Again, *Artemis incisa* Reeve, 1850, seems to me inseparable.

Dosinia cærulea Reeve.

Artemis cærulea Reeve, Conch. Icon., vi., 1850, Pl. iv., fig.25.

In the original account of this species, the locality is given as "Raines Island, Torres Straits." I am convinced that this locality is wrong, and that Tasmania is the proper habitat of this species. The survey ships then, as now, retired from Torres Straits to Tasmania during the hurricane season. From the cruise of the "Rattlesnake," a parcel of Tasmanian shells, *Fissurella scutella, F. lineata, Cominella maurus, Ziziphinus nebulosus,* etc·, were misreported from Torres Straits *D. cærulea* has not been found in Queensland, but the types agree with examples from Tasmania.

By comparison of types, I consider *Dosinia diana* A. Adams and Angas,† from Hardwick Bay, Spencer's Gulf, S.A., a synonym of *D. cærulea*, not as Tate and May place it, with *D. sculpta* Hanley

Again, the type of another unfigured species, *D. cydippe* A. Adams, 1856, sent by Mr. Gunn from Van Diemen's Land, appears to me a young specimen of *D. cærulea* Reeve, not as Tate and May, Pritchard and Gatliff class it under *D. circinaria.*

Dosinia tenella Römer.

(Plate xvi., figs. 23, 24.)

Dosinia tenella Römer, Proc. Zool. Soc., 1860, p. 118.

As this has never been figured, I now offer an illustration from the British Museum specimen, presumably the type, which is 20

* Deshayes, Cat. Conch. Brit. Mus. 1853, p.15.

† Adams & Angas, Proc. Zool. Soc. 1863, p.424.

mm. high, 21·5 mm. long, and 5 mm. depth of single valve. It is labelled "tenella, Römer, Australia, M.C."

Dosinia subrosea Gray.

Artemis subrosea Gray, Analyst, viii., 1838, p. 309; *Id.*, Reeve, Conch. Icon., vi., 1850, Pl. iv., fig. 9.

Dosinia coryne A. Adams, 1856, another unfigured species, has been reduced by Tate and May to a synonym of *D. sculpta* Hanley, 1845. But careful study of the type of *D. coryne* in the British Museum, led me to regard it as a young specimen of *D. subrosea* Gray. This New Zealand species is not included in Tasmanian catalogues, but it was independently reported by Legrand* from Tasmania.

Again, I saw, at South Kensington, two specimens, evidently the types, but not so marked, of "*Dosinia crocea* Deshayes, Flinders Island, Joseph Milligan, Esq." Except that *O. crocea* is yellow on the lunule and escutcheon, and *D. coryne* is there uncoloured, the two shells are alike. *D. grata* Deshayes, as Tate mentioned,† has much coarser sculpture than *D. crocea.*

Macrocallista planatella Lamarck.

Cytherea planatella Lamarck, Anim. s. vert. v., 1818, p. 565.

To this name is attached a long history of error. It is curious that none of the European authors, who have dealt with the species, should have consulted the type.

In the Lamarckian collection of Geneva are still preserved three specimens, types, with the author's label. On seeing these, it was at once clear to me that *M. planatella* is not *Cytherea diemenensis* Hanley, as has been frequently stated, following the suggestion of Mr. E. A. Smith.‡

The real *planatella* is not even a Tasmanian shell, as Lamarck's habitat, "Terre de Van Diemen," indicates. But the collectors of Baudin's Expedition misreported, besides this, a number of tropical West Australian species (probably from Shark Bay) as Tas-

* Von Martens, in Hutton, Manual N. Z. Mollusca, 1880, p.202.
† Tate, Trans. Roy. Soc. S.A. xxxi. 1897, p.47.
‡ Smith, Chall. Exped. Zool. xiii. 1885, p.136.

manian. These are *Cantharidus baudini, Clanculus ringens, Conus pontificalis, Chloritis prunum, Arca semitorta, Arca trapezina, Crenatula modiolaris,* and *Metis umbonella.*

A general idea of the size and shape of the type of *C. planatella* is conveyed by Römer's figure of it—Monogr. Venus, 1869, Pl. xix., fig. 2—but this is quite misleading as to sculpture. *C. planatella* has broad, spaced, corrugated, concentric sculpture, exactly that of *C. costata* Römer, op. cit., Pl. xviii., fig. 3, a, b, c. Indeed so well does it agree, that, when in the Swiss Museum, I confronted Lamarck's own shell with this illustration, I was satified that Römer here represented the adult form of Lamarck's species. On revising my notes in Australia, it appeared to me that the *costata* of Römer differed from the *costata* of Chemnitz, which it was supposed to represent. And as Dillwyn says, the "*V. costata* of Gmelin is an extremely obscure species," Lamarck's name may yet find an opportunity for legitimate service.

Venerupis planicosta Deshayes.

(Plate xvi., figs. 25, 26.)

Venerupis planicosta Deshayes, Proc. Zool. Soc., 1853 (1854), p. 4; *Id.*, Sowerby, Conch. Icon., xix., 1874, Pl. iv., fig. 29.

This figure is taken from a specimen in the Cuming Collection marked type, and labelled "planicosta, Desh., P.Z.S., 1853, p. 4. Hab. Swan River." Length, 18; height, 13; depth of single valve, 4 mm.

Venerupis subdecussata Deshayes.

(Plate xvi., figs. 27, 28.)

Venerupis subdecussata Deshayes, Cat. Conchif. Brit. Mus.,1853, p.196; *Id.*, Sowerby, Conch. Icon. xix., 1874, Pl. iv., f.26.

This species is represented in the British Museum by two specimens, probably types, but not so marked. These are labelled "Venerupis subdecussata, Deshayes. Van Diemen's Land, R. Gunn, Esq." One of these, here figured, is in length, 23; height, 15; and depth of single valve, 6 mm.

Tellina ticaonica Deshayes.

This name was entered in Australian lists by Angas, who stated* that it was "Dredged at Lane Cove," Sydney Harbour. In the British Museum are the specimens presented by Angas, on which this record was based. I find that these are not *T. ticaonica* Deshayes, but that they are *T. brazieri* Sowerby. The real *T. ticaonica,* by comparison of types, is larger, the dorsal and ventral margins more nearly parallel, and the shorter side more produced. *Tellina ticaonica* is unknown from Australia, and, therefore, to be expunged from our list.

Tellina recurva Deshayes.

Tellina recurva Deshayes, Proc. Zool. Soc., 1854 (1855), p. 361.

After special search, I failed to find this unfigured Australian species in the British Museum. It is recommended that the name be treated as lost and unrecognisable.

Tellina quoyi Deshayes.

Tellina quoyi Deshayes, Proc. Zool. Soc., 1856, p. 130; *Id.*, Sowerby, Conch. Icon., xvii., 1868, Pl. liii., fig. 314.

In literature, the locality given is merely "N. Australia." But two specimens in the British Museum, probably types though not so marked, are labelled "quoyi, Desh., Cape York, Jukes." Another tablet carries a note that *quoyi* is a synonym of *T. lata* Quoy and Gaimard (not *T. lata* Gmelin), and that both should be subordinated to *T. chloroleuca* Lamarck. Under the latter name are examples gathered by Jukes at Darnley Island. Mr. Sowerby told me that his father had accidentally transposed, in the Thesaurus, the figures of *T. chloroleuca* and of *T. sowerbyi* Hanley.

Strigella sincera Hanley.

Tellina sincera Hanley, Proc. Zool. Soc., 1844, p. 68; *Id.*, Thes. Conch., i., 1846, p. 261, Pl. 60, fig. 144.

Strigilla grossiana Hedley, These Proceedings, xxxiii., 1908, p. 474, Pl. ix., fig. 21.

---

* Angas, Proc. Zool. Soc. 1867, p.919.

In the British Museum, I found two unnamed *Strigilla* labelled "Moreton Bay, Mr. Strange." I had no specimen of the species for actual comparison, but, by recollection and by the published drawing, I recognised the Moreton Bay shells as my *S. grossiana.* With the shells of Strange, Mr. E. A. Smith and I agreed to identify the type of Hanley's *Strigilla sincera,* described from an unknown locality

Prof. C. B. Adams* reported that he personally procured *S. sincera* at Panama. Afterwards Carpenter† noted that while he considered *S. sincera* identical with *S. disjuncta,* H. Cuming regarded these two as "quite distinct." This contradiction agrees with the hypothesis that the Panama record by Adams and Carpenter was based on *disjuncta,* not on *sincera.* In various collections in the United States, I saw specimens, from Central America, of *S. disjuncta,* but none of *S. sincera.*

Confusion of names or localities has occurred in the literature of *S. sincera,* for it is incredible that it exists both at Panama and Moreton Bay. It seems to me probable that the American records are erroneous.

Semele ada Adams and Angas.

(Plate xvii., figs. 29, 30, 31, 32, 33.)

Semele ada A. Adams and Angas, Proc. Zool. Soc., 1863, p. 426; *Id.,* Tate, Trans. Roy. Soc. S.A., ix., 1887, p. 85, Pl. v., fig. 8.

I have derived a figure from a specimen in the British Museum, marked type, which is 12 mm. long, and 10 mm. high.

Semele duplicata Sowerby.

Semele duplicata Sowerby, Spec. Conchyl., 1830, fig. 14, 15; *Id.,* Melvill and Standen, Journ. Linn. Soc. Zool., xxvii., 1899, p. 201.

Amphidesma zebuense Hanley, Proc. Zool. Soc., 1844, p. 17.

In the British Museum, "Antigua," the original locality, is crossed out, and "Torres Straits," perhaps on the record by Melvill and Standen, is substituted. The name of this species does not

* Adams, Ann. Lyceum Nat. Hist. New York, v., 1852, p.285.
† Carpenter, Rept. Brit. Assoc. 1863, p.554.

seem to have appeared in American literature. *Amphidesma zebuense* Hanley, seems to be to me indistinguishable from *S. duplicata.*

Semele exarata Adams & Reeve.

(Plate xvii., figs. 34, 35, 36, 37.)

Amphidesma exarata Adams and Reeve, Voy. Samarang, Moll., 1850, p. 81, Pl. 24, fig. 9.

Figures are here presented of a specimen in the British Museum, dredged in 7 fathoms, fine sand, near Singapore, by H. Cuming. It is 28 mm. long, 22·5 high, and 6 mm. in depth of single valve.

Psammobia squamosa Lamarck.

Psammobia squamosa Lamarck, Anim. s. vert., v., 1818, p. 514; *P. rugulosa* Adams and Reeve, Voy. Samarang, Moll., 1850, p. 81, Pl. 24, fig. 4; *P. palmula* Deshayes, Proc. Zool. Soc., 1854 (1855), p. 325.

Study of the series in the British Museum induces me to regard *P. rugulosa* as a synonym of *P. squamosa*, and with these to unite *P. palmula*, the latter only differing from the rest by being white and smaller. One specimen, apparently the type of *P. palmula*, is marked "Sydney." But this is an error, for the species does not ascend to so high a latitude.

Donax striatellus Deshayes.

(Plate xvii., figs. 38, 39.)

Donax striatellus Deshayes, Proc. Zool. Soc., 1854,(1855), p. 352.

This unfigured species was reported from "Australia." No further information about it has been contributed by subsequent writers. The present illustration is taken from a specimen, which is apparently the type of Deshayes, but not so marked, in the British Museum, which measures, height, 17; length, 30; and depth of conjoined valves, 10·5 mm.

Donax veruinus, *nom.mut.*

Donax nitida Reeve, Conch. Icon., viii., 1854, Pl. vi., fig. 34; *Id.*, Deshayes, Proc. Zool. Soc., 1854,(1855), p. 350; *Id.*, Smith, Chall. Rep. Zool., xiii., 1885, p. 112; *Id.*, Melvill and Standen, Proc. Zool.

Soc., 1906, p. 826. *Not Donax nitidus* Lamarck, Ann. du Mus. vii., 1806, p. 231 and xii., 1811, Pl. 41, fig. 6.

The name proposed by Reeve and Deshayes for a recent Australian Donax was already given by Lamarck to a Parisian fossil. A new epithet, *D. veruinus,* is therefore here proposed. The range of the species has been recently extended to the Persian Gulf by Melvill and Standen.

Solen vagina Linné.

Solen vagina Linné, Syst. Nat. x., 1758, p. 672; *Id.,* Hanley. Ips. Linn. Conch., 1855, p. 29.

Solen truncatus Mawe, Linn. Syst. Conchol., 1823, p. 19, Pl. v., fig. 2.

Solen brevis Gray, MSS., in Hanley, Recent Shells, 1842, p. 12, Pl. xiii., fig. 42.

Solen fonesii Dunker, Proc. Zool. Soc., 1861, p.419; *Id.,* Bloomer, Proc. Malac. Soc., vii., 1906, p. 18.

Solen jonesii Conrad, Am. Journ. Conch., iii., 1867, suppl. p. 28; *Id.*, Sowerby, Conch. Icon., xix., 1874, Pl. iii., fig. 11.

On the tablet of the type of *S. fonesii* in the British Museum, is a note, "Compare with *brevis* Gray." On making the comparison, the two appeared, to me, to be the same. Hanley has already shown that the Linnean species is identical with *S. brevis.* This seems to be the common North Queensland species.

Solen aspersus Dunker.

Solen aspersus Dunker, Proc. Zool. Soc., 1861, p. 420; *Id.,* Sowerby, Conch. Icon. xix., 1874, Pl. vii., fig. 33.

A specimen evidently type, but not so marked, in the British Museum, is labelled "*aspersus* Dkr., Sydney, Australia, M.C., P.Z.S., 1861, p. 420." This is identical with *S. vaginoides* Lamk., but the locality is erroneous.

Cryptomya elliptica A. Adams.

(Plate xvii., figs. 40, 41, 42, 43, 44.)

Sphaenia elliptica A. Adams, Proc. Zool. Soc., 1850, (1851), p. 88; *Id.,* Ann. Mag. Nat. Hist. (2) vii., 1851, p. 421; *Id.,* Smith, op. cit. (6) xii., 1893, p. 278.

Cryptomya elliptica A. Adams, Ann. Mag. Nat. Hist. (4) ii., 1868, p. 366; *Id.,* Tryon, Am. Journ. Conch iv., suppl., 1868, p. 68; *Id.,* Angas, Proc. Zool. Soc., 1871, p. 99; *Id.,* Dunker, Moll. Jap., 1882, p. 178, Pl. vii., figs. 17-19; *Id.,* Lynge, D. Kgl. Danske Vidensk. Selsk. Skrifter, 7, v., 1909, p. 273.

Mya elliptica Sowerby, Conch. Icon., xx., 1875, Pl. i., fig. 2.

Cryptomya truncata Gould, Proc. Boston Soc. Nat. Hist. viii., 1861, p. 24; *Id.,* Gould, Otia Conch., 1862, p. 163.

This species was originally described from "Sydney, 4 fms., mud (F. Strange)." In the British Museum, I found three specimens, evidently the types, but not so marked. As the existing illustrations are either obscure or not easily accessible to local students, a drawing is supplied of one of these types, which measured 15 mm. in length, and 10 in height.

Emarginula bajula, sp.nov.

Emarginula dilecta Hedley (not A. Adams), These Proceedings, xxx., 1906, p. 521, Pl. xxxiii., figs. 37, 38.

In the British Museum, I saw a tablet of four specimens marked on the under surface "*E. dilecta* A. Ad., Thesaurus, iii., p. 211, Pl. 245, fig. 5., King George's Sound, M.C." Though not so marked, these appear to be the types of the species. There is another series once marked "dilecta, A. Ad. M.C.," but now corrected to "not dilecta, A.Ad." This latter is the species I figured as *dilecta.* Finding now that it is distinct and unnamed, I propose to call it *E. bajula*, having for type the Maroubra specimen figured. Both have the fasciole a furrow. But *E. dilecta* is elevated more regularly oval, with a subcentral apex, and fine interstitial riblets. *E. bajula* —a porter bent under a load —is much depressed, broader behind and tapering anteriorly, without interstitial riblets.

Fissuridea corbicula Sowerby.

Fissurella corbicula Sowerby, Thes. Conch., iii., 1862, p. 200, Pl. 242, fig. 180. *Fissurella lanceolata* Sowerby, Thes. Conch., iii., 1862, p. 200, Pl. 242, fig. 182.

In the British Museum, I found a tablet with four specimens, probably types, labelled "corbicula, Sow, Australia," on the under

surface "Compare lanceolata, M.C." Again, four specimens, probably types, but not so marked, labelled "lanceolata, Sowb., Moreton Bay," and beneath "Compare corbicula, M.C." On contrasting the specimens, I think that both names relate to one species.

Fissuridea jukesii Reeve.

Fissurella jukesii Reeve, Conch. Icon., vi., 1849, Pl. vii., fig. 45. *F. similis* Sowerby, Thes. Conch., iii., 1862, p. 194, Pl. 241, fig. 143.

In the British Museum are two specimens, perhaps types but not so marked, labelled "similis, Sowb., Fiss., Australia." These I consider identical with *F. jukesii* Reeve.

Haliotis funebris Reeve.

Haliotis funebris Reeve, Conch. Icon., iii., 1846, Pl. xii., fig. 38. *H. diversicolor* Reeve, op. cit., Pl. xii., fig. 39. *H. tayloriana* Reeve, op. cit., Pl. xiii., fig. 43.

From an examination of Reeve's originals in the British Museum, I am unable to distinguish the above three as valid species. Page-precedence of the aggregate was given by our negligent author to *H. funebris,* and this, the most frequently used name, is accordingly advanced for employment. The preliminary descriptions, to which reference is made in the Iconica, were not published by the Zoological Society until two months after the other account had appeared.

A tablet of *H. funebris* in South Kensington is marked "Swan River, Dr. Bacon." Other specimens referred to *funebris* were collected by Prof. J. B. Jukes, at Oomaga, or Stephen's Island, and Bramble Cay in Torres Strait. Schepman has reported *H. funebris* from Malaysia, but it does not occur in Port Jackson, as he supposes.*

Clanculus jucundus Gould.

(Plate xvii., fig. 45.)

Clanculus jucundus Gould, Proc. Boston Soc. Nat. Hist., viii., 1861, p. 14.

The locality ascribed by its author to this hitherto unfigured species is "Sydney, N.S.W.," but no one has since found it in Aus-

* Schepman, Rhipidoglossa Siboga Exped., 1908, p.76.

tralia. Specimens are not extant in either the Washington or Albany Museums, but, in London, I had the good fortune to find a single faded specimen labelled "Sydney," which Mr. E. A. Smith regarded as authentic, perhaps sent by Gould to Cuming, and which is here illustrated. At South Kensington there is also a series of *C. jucundus* from Nui or Savage Island; these are brightly coloured, and differ slightly from the cotype by fewer spirals. I conclude that *C. jucundus* is not a member of the Australian fauna.

Clanculus conspersus A. Adams.

(Plate xvii., fig. 46.)

Clanculus conspersus A. Adams, Proc. Zool. Soc., 1851, (1853), p. 163; *Id.*, Angas, Proc. Zool. Soc., 1865, p. 178; *Id.*, Tenison-Woods, Proc. Roy. Soc. Tasm., 1877, p. 40; 1879, p. 69; *Id.*, Pritchard and Gatliff, Proc. Roy. Soc. Vict., xiv., 1902, p. 119.

There are, in the British Museum, two specimens, perhaps types but not so marked, labelled "conspersus, A. Adams, M.C." There is no other information. As the species has not been illustrated, and has been ascribed to South Australia and Tasmania, a figure is presented of one of these London shells.

Alcyna exigua Gould.

Elenchus exiguus Gould, Proc. Bost. Soc. Nat. Hist., viii., 1861, p. 18.

In the U. S. National Museum at Washington (July, 1912), I saw the type of *Elenchus exiguus,* reported by its author from Sydney. It is an *Alcyna,* and has, apparently, not been figured under that or any other name. In the original register of the Smithsonian Institute, it is recorded as C. 378 from "China Seas." It can, therefore, be struck off the Australian list as an exotic.

Thalotia tricingulata A. Adams.

Thalotia tricingulata A. Adams, Proc. Zool. Soc., 1851 (1853), p. 173; Id., Pilsbry, Man. Conch., xi., 1889, p. 153.

This species has been traditionally reported from Queensland. No authentic specimen, figure, or satisfactory description exists.

It is, therefore, recommended that *T. tricingulata* be written off as unrecognisable.

Ziziphinus fragum Philippi.

The original of Reeve's Conch. Icon. Ziziphinus, fig. 49, intended for *Z. fragum* Philippi, is marked in the British Museum as not that species. This specimen is perhaps an unnamed Australian *Calliostoma*, and resembles *C. scobinatus* Adams, from Bombay.

Ziziphinus monile Reeve.

Ziziphinus monile Reeve, Conch. Icon., xiv., 1863, Pl. vi., sp.39.

In the British Museum is one specimen probably the type, but not so marked, labelled, "monile, Reeve, Port Curtis," and underneath the tablet "Compare with millegranus." On making the comparison suggested, and allowing that the superficial sculpture has been obliterated with acid, I find that Reeve's shell answers in size, shape, colour, and sculpture to *Trochus millegranus* Philippi, from Sweden. What I had identified from Mast Head Island as *C.* monile* proves to be *C. polychroma* A. Adams. The conclusion is that *Z. monile* Reeve should be rejected from the Australian record.

Ziziphinus bicingulatus Lamarck.

Ziziphinus bicingulatus Lamk., A. Adams, Proc. Zool. Soc., 1851 (1853), p. 166.

In the above reference Adams reports the species from "Rains (sic!) Island, Ince." The species is South African according to the British Museum collection, and the Queensland locality necessarily false.

Calliostoma comptum A. Adams.

Ziziphinus comptus A. Adams, Proc. Zool. Soc., 1854 (1855), p. 38.

Calliostoma purpureocinctum Hedley, these Proceedings, xix., 1894, p. 35, text-fig.

Trochus (*Calliostoma*) *Adamsi* Brazier, op. cit., 1895, p. 568; not *Calliostoma adamsi*, Pilsbry, 1889.

---

* Hedley, These Proceedings, xxxii., 1907, p.479.

This species was reviewed and renamed by Mr. J. Brazier. His conclusions are involved. For *Z. comptus* A. Adams he proposed a new name, for the reason that it was preoccupied by Philippi. This new name was already used in the genus by Pilsbry. In a footnote Brazier reverses the decision of the text by adopting the view of Mr. E. A. Smith, that the specific name of Adams should be maintained, because that of Philippi was published one year later.

Six months previous to Mr. Brazier's paper, accepting the statement that *Z. comptus* was New Caledonian and was synonymous with *Z. poupineli* Montrouzier, I proposed to call the Sydney shell *Calliostoma purpureocinctum.*

On re-examining the question I find that in the first place the names proposed by Philippi and by Adams are spelled differently, and may both be maintained. The dates supplied to Brazier are wrong, and the precedence reversed. For Philippi's name appeared thus:—"*Trochus comtus* Philippi, Zeit. f. Malak., viii., 1851, p. 42" (July, 1851), and that of Adams thus:—"*Ziziphinus comptus* A. Adams, Proc. Zool. Soc., 1854, p. 38" (Jan. 10th, 1855).

From an inspection of the type in the British Museum of *Z. comptus,* I recognised it as the Sydney species. I have been unable to see *Trochus poupineli* Montrouzier, but I accept Brazier's statement that it is distinct from *C. comptus,* and that Adams erred in assigning *comptus* to New Caledonia. This error was repeated in the same volume when Adams described the Australian *Pisania reticulata* as from New Caledonia.

In conclusion, I consider that *Calliostoma comptum* A. Adams should be restored for the Australian shell I described and figured as *C. purpureocinctum,* and which Brazier renamed *Trochus adamsi.*

Calliostoma punctulosum A. Adams.

(Plate xvii., fig. 47.)

Cantharidus punctulosus A. Adams, Proc.,Zool.Soc. 1851 (1853), p. 169. *C. articularis* A. Adams, *loc. cit.*

In the British Museum are three *punctulosus,* perhaps types, but not so marked, obtained at the Swan River by Mr. Jukes. One of these is shown by the present figure. Other examples are from the Monte Bello Islands.

Apparently identical are specimens in the same collection labelled "*articularis* A. Ad., Swan River, G. B. Sowerby, Esq." Probably the earliest name for this shell is *Trochus lepidus* Philippi.*

Cantharidus cingulatus A. Adams.

(Plate xvii., fig. 48.)

Leiopyrga cingulata A. Adams, Proc. Zool. Soc., 1863, p. 507; *Id.,* Smith, Zool. Coll. Alert, 1884, p. 76; *Id.,* Tate, Trans. Roy. Soc. S.A., xiv., 1891, p. 260.

The present figure, the first of the species, is taken from a specimen in the British Museum. It is perhaps a type, but is not so marked.

Cantharidus pallidulus A. Adams.

(Plate xvii., fig. 49.)

Cantharidus pallidulus A. Adams, Proc. Zool. Soc., 1851 (1853), p. 170; *Id.,* Ann. Mag. Nat. Hist. (2), xii., 1853, p. 202.

An illustration of this hitherto unfigured species is based on the single specimen, perhaps type, but not so marked, in the British Museum.

Cantharidus fournieri Crosse.

Trochus fournieri Crosse, Journ. de Conch., xi., 1863, p. 180, Pl. vi., fig. 5; *Id.,* Smith, Proc. Malac. Soc. ii., 1897, p. 232.

The type specimens in the British Museum of *C. fournieri* Crosse exactly correspond to shells labelled "*Calliostoma oberwimmeri* Preston (cotype), N. Queensland." This unpublished name was injudiciously and unfortunately introduced into literature by Dr. J. Shirley.†

---

* Philippi, Conch. Cab. ii., 1846, p. 84, Pl. 15, f. 4.

† Shirley, Proc. Roy. Soc. Queensland, xxiii., 1911, p. 96.

Turbo militaris Reeve.

Turbo militaris Reeve, Conch. Icon., iv., 1848, Pl. ix., fig. 40.

In the British Museum is a single specimen, apparently the type of *Turbo militaris,* but not so marked, which is labelled "I. of Anaa." Accompanying this is a series from Port Curtis, Queensland, and New South Wales, embracing a smooth and a thorny variety. Contrary to the suggestion of the name, the smooth is typical. The Paumotuan locality, unsupported by further evidence and incongruous with Australian records, appears to be an error.

This is the species which Angas, to the misleading of Australian conchologists, has recorded as *Turbo imperialis* from Watson's Bay and Moreton Bay.* But *Turbo imperialis* Gmelin does not exist in Australasia.

The *Turbo* from the coral reef of Lord Howe Island, determined by Mr. Brazier† as *T. imperialis,* is really as I ascertained by examination of the type in London, *Turbo cepoides* Smith.‡ The habitat of *T. cepoides* is here first announced. Brazier's misidentification was continued by Whitelegge, who called a new hermit crab *Calcinus imperialis,* because of its occupation of the empty *Turbo* shell.

There are in the British Museum three, apparently types, of *Turbo speciosus* Reeve. These confirmed me in the recognition (antea xxxii., p. 479) of this previously unlocalised species from Mast Head Island.

Leptothyra crassilirata Preston.

(Plate xvii., fig.50.)

Leptothyra crassilirata Preston, Proc. Malac. Soc. viii., 1909, p. 377, text-figure.

The published figure of this species is so vague that it might as well represent a finger print from a police record. It is curious that in London where good figures could be so easily obtained, con-

---

* Angas, Proc. Zool. Soc. 1871, p.96.

† Etheridge, Mem. Austr. Mus., ii., 1889, pp.24, 29.

‡ Smith, Ann. Mag. Nat. Hist.(5), vi., 1880, p.397; *Id.*, Sowerby, Thes. Conch. v., 1886, p. 193, Pl. 499, f.65.

tributors and editors should be content with some of the worst in the world. From the type in the British Museum I now offer another illustration of *L. crassilirata*. It is larger and has heavier spirals than *L. armillata* Sowerby* from the same region.

Turbo sirius Gould.

Turbo sirius Gould, Proc. Bost. Soc. Nat. Hist. iii., 1849, p. 83; *Id.*, Am. Expl. Exp. Moll., xii., 1852, p. 173, Pl. xii., fig. 203.

In the British Museum there is a single specimen labelled "sirius Gould, N. Holland, M.C." This I identified as a juvenile example of *Astralium tentoriforme* Jonas, which has priority.

Petterdiana paludinella Reeve.

Littorina paludinella Reeve, Conch. Icon. x., 1857, Pl. xvi., fig. 84.

Ampullaria tasmanica Tenison-Woods, Proc. Roy. Soc. Tasm., 1876, p. 117; 1878, p. 72.

Braziera tasmanica Petterd, *op. cit.*, 1888 (1889), p. 76, Pl. i., fig. 1.

I found in the British Museum a series of fourteen specimens labelled "paludinella Rve., V.D. Land." Though the actual specimen figured by Reeve is not among them, this series is approved as authentic by Mr. E. A. Smith. By comparison with specimens determined for me by Mr. W. F. Petterd, Reeve's species proves to be the Tasmanian fluviatile shell subsequently described by the Rev. J. E. Tenison-Woods, as *Ampullaria tasmanica*.

It follows that the record by Pritchard and Gatliff† of *L. paludinella* as a marine shell from several localities on the Victorian coast, is erroneous, being, I think, based on the young of *Melaraphe praetermissa* May. By Tate and May (antea xxvi., p. 388) it was unfortunately included in the synonymy of *M. mauritiana*.

Littoridina gunnii Frauenfeld.

(Plate xvii., fig. 51.)

Hydrobia gunnii Frauenfeld, Verhandl. Zool. Bot. Gesell. Wien. xiii., 1863, p. 1025; xv., 1865, p. 526, Pl. viii. (2 figs.).

---

* Sowerby, Thes. Conch. v., 1886, p.211, Pl. 500, f.93.

† Pritchard & Gatliff, Proc. Roy. Soc. Vict., xiv., 1902, p.92.

In the British Museum are a series of this and of the following species, which are probably the types or cotypes. There are in Australia few copies of the work in which it is described, and perhaps none in Tasmania. So I present drawings of the London specimens. These Tasmanian species have not been recognised locally, and have probably been redescribed. Perhaps *L. gunnii* is *Potamopyrgus woodsii* Petterd.

Littoridina diemensis Frauenfeld.

(Plate xvii., fig. 52.)

Amnicola diemense Frauenfeld, Verhandl. Zool. Bot. Ges. Wien, xv., 1865, p. 529, Pl. x. (2 figs.); *Id.*, Petterd, Proc. Roy. Soc. Tasmania, 1888 (1889), p. 81.

This is also drawn from a specimen in the British Museum Petterd suggests that *Amnicola diemense* will prove to be *Beddomeia launcestonensis* Johnston.

Iravadia clathrata A. Adams.

(Plate xvii., fig.53.)

Pyrgula clathrata A. Adams, Proc. Zool. Soc., 1853 (1855), p. 185.

In the original description this hitherto unfigured species is cited from "North-east Australia (Jukes)." But specimens in the British Museum, possibly types, but not so marked, are labelled "Baclayon, Philippines." Because of this casual and perhaps erroneous reference to Australia I present a figure of the British Museum example. And as *Pyrgula,* Christofori and Jan,* is usually included in the Hydrobiidæ I transfer the species to *Iravadia.*

Obtortio Hedley.

Finella A. Adams, Ann. Mag. Nat. Hist.,(3) vi., 1860, p. 336; err. type for *Fenella* A. Adams, Ann. Mag. Nat. Hist. (3) xiii., 1864, p. 39; *Id.*, Crosse, Journ. de Conch. xvi., 1868, p. 46. Not *Fenella* Westwood, Synopsis of Genera of British Insects, 1840, p. 54.

Obtortio Hedley, Mem. Austr. Mus. iii., 1899, p. 412.

* Stimpson, Smithsonian Miscell. Coll., 201, 1865, p.47.

The first form of Adams' name was "Finella"; this he afterwards corrected as a printer's error for "Fenella," a name taken from a character in one of Sir Walter Scott's novels. At first he considered it a Pyramellid, and later "found it to possess all the characters of a Rissoid." He gave no figures. Writers like Watson and Melvill, who had access to Adams' specimens, ignored *Fenella,* distributing the species dealt with in *Alaba* and *Rissoa.* So that it was hardly possible, from literature alone, for any one out of Europe to recognise it. Under these circumstances I proposed for a true *Fenella,* the genus *Obtortio,* placing it, as Adams had done, in the Pyramidellidæ. I now accept Adams' reference of the genus to the Rissoidæ. From an inspection of the collection at South Kensington, I am satisfied that *Obtortio* is an absolute synonym of *Fenella.* But on pursuing the subject further it appears that Fenella was already appropriated by an entomologist before Adams proposed it in conchology.

Diala suturalis A. Adams.

(Plate xviii., fig.54.)

Monoptygma suturalis A. Adams, Proc. Zool. Soc., 1851 (1853), p. 224; *Id.,* Thes. Conch. ii., 1854, p. 819, Pl. 172, figs. 31, 32. *Diala suturalis* A. Adams, Ann. Mag. Nat. Hist. (3) x., 1862, p. 298; *Id.,* Angas, Proc. Zool. Soc., 1865, p. 173.

In the British Museum this species is represented under the genus *Leucotina* by one marked type, and, again, by two under *Diala.* The habitat of both is given as the Philippines. Further evidence seems necessary before the species is credited both to that archipelago and to South Australia.

Diala picta A. Adams.

(Plate xviii., fig.55.)

Diala picta A. Adams, Ann. Mag. Nat. Hist. (3) viii., 1861, p. 243; x., 1862, p. 295; *Id.,* Angas, Proc. Zool. Soc., 1878, p. 867; *Id.,* Tate and May, These Proceedings xxvi., 1901, p. 388; *Id.,* Pritchard and Gatliff, Proc. Roy. Soc. Vict., xviii., 1906, p. 61.

In the British Museum are five specimens, probably types, but not so marked, two being from the collection of Henry Adams.

These are labelled "*Diala picta* A. Ad., Annals, 1861, viii., p. 243. Annals, 1862, x., p. 295. Hab., Takano Sina, M.C." These Japanese shells are very like my *Diala translucida* in general appearance, in translucent substance, and in a band of opaque white spots on the body whorl. But *D. translucida* differs by being more globose, and by lacking the spiral rufous lines of *D. picta*. As the species has not yet been illustrated, one of these British Museum shells is here shown. It is doubtful if *D. picta* or *varia* are Australian.

Diala varia A. Adams.

(Plate xviii., fig.56.)

Diala varia A. Adams, Ann. Mag. Nat. Hist. (3), viii., 1861, p. 248; *Id.,* Angas, Proc. Zool. Soc., 1878, p. 867; *Id.,* Cooke, Ann. Mag. Nat. Hist. (5), xvi., 1885, p. 268; *Id.,* Pritchard and Gatliff, Proc. Roy. Soc. Vict., xiv., 1902, p. 89.

In the British Museum, this species is shown from China and Japan, but not from Australia. One, which appears to be a cotype, is here figured.

Diala pulchra A. Adams.

(Plate xviii., fig.57.)

Alaba pulchra A. Adams, Ann. Mag. Nat. Hist. (3), x., 1862, p. 296; *Id.,* Angas, Proc. Zool. Soc., 1865, p. 173.

Diala pulchra Pritchard and Gatliff, Proc. Roy. Soc. Victoria, xiv., 1902, p. 89.

My figure represents one of two specimens in the British Museum, probably types, but not so marked, labelled, "pulchra A. Ad., P. Adelaide, M.C."

Diala lauta A. Adams.

(Plate xviii., fig.58.)

Diala lauta A. Adams, Ann. Mag. Nat. Hist. (3), x., 1862, p. 298; *Id.,* Angas, Proc. Zool. Soc., 1865, p. 173; *Id.,* Pritchard and Gatliff, Proc. Roy. Soc. Vict., xiv., 1902, p. 88.

Litiopa lauta Tryon, Man. Conch., ix., 1887, p. 282, Pl. 53, fig. 83.

Alaba lauta Henn and Brazier, these Proceedings (2), ix., 1894, p. 172.

Figured from one of ten specimens in the British Museum, probably types, but not so marked, labelled "lauta A. Ad., Port Adelaide, M.C."

Diala monile A. Adams.

(Plate xviii., fig.59.)

Alaba monile A. Adams, Ann. Mag. Nat. Hist. (3), x., 1862, p. 296.

Diala monile Pritchard and Gatliff, Proc. Roy. Soc. Vict., xiv., 1902, p. 87; *Id.*, Hedley, These Proceedings, xxx., 1906, p. 523, Pl. 33, fig. 36.

Here is figured one of two specimens in the British Museum, probably types, but not so marked, and labelled, "*A. monile* A. Ad., Annals, 1862, x., p. 296, Hab., Port Lincoln, M.C."

Diala pagodula A. Adams.

(Plate xviii., fig.60.)

Alaba pagodula A. Adams, Ann. Mag. Nat. Hist. (3), x., 1862, p. 297; *Id.*, Angas, Proc. Zool. Soc., 1865, p. 173; *Id.*, Tate, Trans. Phil. Soc. Adelaide, ii., 1879, p. 137.

A figure is supplied of one of two specimens in the British Museum, probably types, but not so marked, labelled "*A. pagodula* A. Ad., Ann. and Mag. N. Hist., 1862, x., p. 297. Hab., St. Vincent's Gulf, S. Australia, M.C."

Diala imbricata A. Adams.

(Plate xviii., fig.61.)

Alaba imbricata A. Adams, Ann. Mag. Nat. Hist. (3), x., 1862, p. 397.

Diala imbricata Angas, Proc. Zool. Soc., 1878, p. 867; *Id.*, Tate, Trans. Phil. Soc., Adelaide, 1879, p. 137.

This illustration represents one of two specimens in the British Museum, apparently types, but not so marked, labelled "*Alaba imbricata* A. Ad., Annals, 1862, x., p. 397, Port Lincoln, M.C."

Alaba vibex A. Adams.

(Plate xviii., fig.62.).

Alaba vibex A. Adams, Ann. Mag. Nat. Hist. (3), x., 1862, p. 296; *Id.*, Smith, Proc. Zool. Soc., 1875, p. 538.

Litiopa vibex Tryon, Man. Conch., x. 1887, p. 282.

My figure is drawn from one of two in the British Museum, apparently types, but not so marked, labelled "*A. vibex* A. Ad., Annals, 1862, x., p. 296. Hab., Sharks Bay, West Australia. Pres. Mrs. de Burgh."

Calyptræa calyptræformis Lamarck.

Trochus calyptraeformis Lamk., Anim. s. vert., vii., pt.i., Aug., 1822, p. 12.

In the Museum at Geneva I saw the type, a single specimen marked in Lamarck's own writing "*Trochus calyptraeformis.*" This tablet has been re-labelled by a later hand, perhaps that of Chenu, "*Galerus lamarcki* Deshayes." In a recent review of this subgenus, *Sigapatella,* Dr. E. Lamy* also prefers the name of Deshayes.

It is important for Australian conchologists to decide which name for this common shell is correct. The subject is complicated, in the first instance, Lamarck described a French tertiary fossil as *Calyptræa trochiformis.*† Subsequently he proposed the name *Trochus calyptraeformis* for a recent shell, collected at Maria Island, Tasmania, by Péron, which resembled this fossil. Finally he revised the tertiary fossil under the name of *Trochus calyptraeformis.*‡

At this time the unfortunate savant had become totally blind, so that this last volume was completed from dictation by his devoted daughter Rosalie.§ This sad circumstance probably caused the name of the fossil to be exchanged from *Calyptraea trochiformis* to *Trochus calyptraeformis* by merely accidental inversion.

The simplest correction of the error seems to be to restore to each, the fossil and the recent, its earlier name. The second part of vol.

---

* Lamy, Bull. du Mus, d'hist. nat., 1911, p.318.

† Lamarck, Ann. du Mus. i., 1802, p.385.

‡ Lamarck, Anim. s. vert., vii., pt.2 (? date) suppl., p.558.

§ Landrien, Mém. Soc. Zool. France, xxi., 1909, p.100.

vii., of the Hist. Anim. s. vert., has neither title-page nor date, but the citation in the index of Parts One and Two is evidence of separate publication, and hence of definite priority of name for the recent Tasmanian shell. In that case Deshayes was not entitled to alter the name.

He, however, took the view that as the name was twice used by Lamarck one should be changed, and he renamed the Tasmanian shell *Calyptraea lamarckii.** Shortly afterwards the same species from Western Port, 14 fathoms off Cape Dromedary and Jervis Bay was described as *Crepidula tomentosa* Quoy & Gaim.†

Tryon‡ considered that *C. comma-notata* Sowerby,§ was a synonym, but as that was described from the Guinea coast, the reference is improbable. But Gray transferred the name *comma-notata* to a shell from New Zealand.||

Calyptræa tenuis Gray.

Galerus pellucidus Angas, Proc. Zool. Soc., 1867, p. 211.

Clypeola tenuis Gray, Proc. Zool. Soc., 1867, p. 735.

Calyptraea pellucida Tate, Trans. Roy. Soc. S.A., xvii., 1893, p. 199; *Id.*, Tate and May, These Proceedings, xxvi., 1901, p. 376.

Calyptraea scutum Gatliff and Gabriel, Proc. Roy. Soc. Victoria, xxii., 1909, p. 38.

In the British Museum a series from St. Vincent's Gulf, presented by Dr. J. C. Verco are thus identified. From these and from Gray's types it appears that the species determined as *Galerus pellucidus* by Angas from Port Jackson, by Tate from St. Vincent and Spencer's Gulfs, and by Tate and May from Frederick Henry Bay, Tasmania, is properly *C. tenuis.* Hutton has stated¶ that *Sigapatella scutum* Lesson is synonymous with *C. tenuis.* Under Lesson's name the present species is reported from Victoria by Gatliff and Gabriel. The identity of Lesson's unfigured species is

* Deshayes, Encycl. Méth. vers., ii., 1832, p.170.

† Quoy & Gaim., Zool. Astrolabe, iii., 1835, p.419, Pl.72, f.1-5.

‡ Tryon, Man. Conch., viii., 1886, p.122.

§ Sowerby, Cat. Tankerville Coll. 1825, p.33 and append. vii.

|| Gray, Proc. Zool. Soc., 1867, p.736.

¶ Hutton, These Proceedings, ix., 1885, p.938.

obscure, but I observe that the shell known to New Zealand collectors as *C. scutum* differs by its hollow axis from *C. tenuis.*

Trochita pellucida Reeve is shown at South Kensington from the Philippine Islands. It is smaller than the S. Australian shell, with which it has been confused, and the interior process ends in a point.

Cerithium polygonum Sowerby.

Cerithium polygonum Sowerby, Thes. Conch. ii., 1855, p. 854, Pl. 178, fig. 46.

C. opportunum Bayle, Journ. de Conch., xxviii., 1880, p. 248.

This species was described from Port Essington. Bayle altered the name to *Cerithium opportunum,* because Sowerby's name had been used already in 1844 by Leymerie. Here, as in other cases, Bayle's industry was superficial and abortive. The type of *C. opportunum,* in the British Museum, was familiar to me as the young of *Clava nodulosa* Bruguière. For the juvenile form of this I have already recorded other names (antea xxxiv., p. 439).

Cerithium novæ-hiberniæ A. Adams.

Cerithium novæ-hiberniæ A. Adams, Thes. Conch. ii., 1855, p. 357, Pl. 180, fig. 85.

In the British Museum is the type of this species from the Hanley Collection, the original of Sowerby's figure. The locality of this is given as Florida, and it is mentioned by Dr. W. H. Dall as a synonym of *C. eburneus* Say.* So it is unlikely that the record by Melvill and Standen of this species from Murray Island, Torres Strait, is correct.†

Clava bituberculata Sowerby.

Cerithium semigranosum Lamarck, Anim. s. vert., vii., 1822, p. 72; *Id.,* Ency. Méth., Pl. 443, fig. 1; *Id.,* Kiener Cerite, 1843, p. 26, Pl.21, fig.2. Not *Cerithium semigranosum* Lamarck, Ann. du Mus. iii., 1804, p. 437.

---

* Dall, Bull. U. S. Geol. Survey, No. xxiv., 1885, p.64.

† Melvill & Standen, Journ. Linn. Soc. Zool., xxvii., 1899, p.167.

Vertagus bituberculatus Sowerby, Conch. Icon., xv., 1865, Pl. iv., fig. 7; *Id.*, Thes. Conch. iii., *Cerithium* suppl., 1866, Pl. 290, fig. 324.

Cerithium cordigerum Bayle (*nom. mut.*), Journ. de Conch., xxviii., 1880, p. 249.

In the British Museum there are two specimens, apparently types of *bituberculatus*, which drew my attention to this novel synonymy. Had Bayle examined the subject carefully, he would have found that the renomination of Lamarck's species had already been effectively, if unconsciously, accomplished.

The habitat has not hitherto been announced more definitely than "New Holland" or "Australia." Specimens sent to me by Mr. F. H. Moore show it to be plentiful at the entrance of the Irwin River, West Australia.

Plesiotrochus unicinctus A. Adams.

(Plate xviii., fig. 63.)

Ziziphinus unicinctus A. Adams, Proc. Zool. Soc., 1851 (1853), p. 167.

Four specimens in the British Museum are evidently, though not so marked, the types of this species, described as "On pearl oysters, 8 to 10 fathoms, Lord Hood's Island," or Marutea, Paumotus. It has never been figured, redescribed, or properly classified. Study of these types enables me to pronounce *Z. unicinctus* an absolute synonym of *Trochus exilis* Pease, from the same place, and of *Plesiotrochus souverbianus* Fischer from the Loyalty Islands. Hence it will stand as the type of the genus. To support this conclusion I now offer a figure of one of the original specimens of Adams.

In these Proceedings (antea xxxii., p. 498), I lately reviewed the genus *Plesiotrochus*, since when it has been reported from the Indian Ocean by Mr. E. A. Smith in the person of *Plesiotrochus fischeri*.*

---

* Smith, Proc. Malac. Soc., viii., 1909, p.370, text-fig.

Triphora scitula A. Adams.

Triphoris scitulus A. Adams, Proc. Zool. Soc.,1851(1854), p.278.
Triphoris pfeifferi Crosse and Fischer, Journ. de Conch., xiii., 1864, p. 47, Pl. i., figs. 14, 15.

In the British Museum, I found a tablet with seven specimens labelled "scitulus A. Ad., Adelaide, S. Australia." Five of these, as is noted on the under side, are *T. pfeifferi.* Again there is a tablet from the Cumingian Collection, with three specimens marked "scitulus A. Ad., M.C."; these are all *T. pfeifferi.* This evidence indicates, as I have already suggested (antea xxvii., p. 616), that *pfeifferi* should give place to *scitulus.* One specimen of *T. pfeifferi* is marked type, and was presented to the British Musum by G. F. Angas.

A tablet was also found, not marked type, bearing three shells labelled "festivus A. Ad., S. Australia." Two of these are a species subsequently described, and the third is different, and also subsequently described. Under these circumstances I suggest that *T. festivus* A. Ad. be abandoned as unintelligible.

Turritella carlottæ Watson.

Turritella carlottae Watson, Chall. Exp. Zool. xv., 1886, p. 478, Pl. xxx., fig. 5.

On the tablet in the British Museum of *Turritella carlottae,* are two distinct species. Though all are labelled "10 fm. Queen Charlotte Isl.," it is probable that a pair are from New Zealand, and a pair from Bass Straits. The Museum label admits the identity of *T. carlottae* with *T. vittata* Hutton. Under the circumstances, this synonymy should, I think, stand, but it should be appreciated that while Watson gave a second name to the New Zealand shell, he gave none to the Bass Straits one. To express it otherwise, this datum does not justify the admission of *T. vittata* Hutton to the Australian list by Pritchard and Gatliff.*

---

* Pritchard & Gatliff, Proc. Roy. Soc. Vict., xviii., 1906, p.54.

Cæcum bimarginatum Carpenter.

(Plate xviii., figs.64, 65, 66.)

Cæcum bimarginatum Carpenter, Proc. Zool. Soc., 1858, pp.431, 442.

This unfigured species was recorded from "Australia," because it was found on the shell of *Petaloconchus nerinaeoides.* In the British Museum, there is preserved one specimen, probably type, but not so marked, on a slide in a corked tube, "27, *Caecum bimarginatum,* Cpr., Singapore, Revd. P.P. Carpenter"; again, one specimen on a glass slide in a corked tube, labelled "27 *Caecum* (?) *bimarginatum,* jun., Australia, Rev. P. P. Carpenter." (My fig. 64.)

To assist in the recognition of these, figures are now presented.

Cæcum subquadratum Carpenter.

(Plate xviii., fig.67.)

Cæcum subquadratum Carpenter, Proc. Zool. Soc., 1858(1859), p. 433.

An illustration is here given of a specimen in the British Museum, perhaps a type, but not so marked, mounted alone on a glass slide in a corked tube, and labelled, "33 *Caecum subquadratum,* Cpr., Australia, W. Bean." But the published reference is "Port Elizabeth (Bean)."

Cæcum regulare Carpenter.

(Plate xviii., figs.68, 69, 70.)

Cæcum regulare Carpenter, Proc. Zool. Soc., 1858, p.428.

This species was reported by its author to have been found on the Australian shell *Petaloconchus nerinaeoides.* In the British Museum, I found the following series, one shell to each tablet, mounted on a labelled glass slide in a corked tube, "22 *Caecum regulare,* Carp., Singapore, Rev. P. P. Carpenter," "*Caecum* (?) *regulare* Cpr., Australia, Rev. P. P. Carpenter," " 22 *Caecum regulare,* Cpr., W. Indies, S. P. Woodward." There is also one specimen, *Caecum regulare* Carp. from the Challenger Station 122, in 350 fathoms off Pernambuco.

This evidence seems opposed to the occurrence of this species in Australia. The Australian shell doubtfully referred to *C. regulare* by Carpenter is here illustrated fig. 70.

Bivona constrictor Mörch.

(Plate xviii., fig. 71.)

Bivona constrictor Mörch, Proc. Zool. Soc., 1862, p. 63.

In the British Museum is a single specimen, perhaps type, but not so marked, labelled, "Bivona constrictor, Mörch, Australia, M.C." This is illustrated in the accompanying figure.

Stephopoma tricuspe Mörch.

(Plate xix., figs. 72, 73, 74.)

Stephopoma tricuspe Mörch, Proc. Zool. Soc., 1861, p,150, Pl. 35, fig. 1.

In the British Museum are two tablets, perhaps types, but not so marked, labelled "Stephopoma tricuspe, Mörch, c.operc. et foeti, Australia, M.C." From these have been derived figures of a mass of tubes (fig. 72), and of the operculum (figs. 73-74). No habitat for the species has been published; it lives in Sydney Harbour.

Naricava, gen.nov.

A genus related to *Vanikoro*, but differing by smaller and thinner shell, by fewer, more depressed and rapidly increasing whorls, and by the last whorl being expanded horizontally. *Naricava* holds somewhat the relation to *Vanikoro*, that *Sigaretus* does to *Eunaticina*. Type, *Adeorbis angasi* A. Adams, 1863. Other Australian species are, *Adeorbis vincentiana* Angas, 1880; *Adeorbis angulata* Hedley, 1905; and *Adeorbis kimberi* Verco, 1907. Probably *Adeorbis platymna* Tomlin, 1913, from Singapore, belongs here.

Naricava is perhaps related to *Laciniorbis*,* but that does not seen to have the peculiar apex of *Naricava*, nor is it referred to the Vanikoridæ. It has been indicated by Iredale,† that *Adeorbis* may be replaced by *Tornus*, but this is not established. Verril classifies *Adeorbis* near *Rissoa*.

---

* v. Martens, Archiv Naturg., lxiii.,(1) 1897, p.175.

† Iredale, Proc. Malac. Soc., ix., 1911, p.259.

Leiostraca acutissima Sowerby.

Leiostraca acutissima Sowerby, Conch. Icon., xv., 1866, Pl. ii., fig. 10; *Id.*, Tryon, Man. Conch., viii., 1886, p. 281, Pl. 70, figs. 89, 90.

Leiostraca lesbia Angas, Proc. Zool. Soc., 1871, p.91, Pl. i., fig.14.

In the British Museum, I compared one shell marked as the type of *L. acutissima* Sowerby, with an example of *L. lesbia,* presented by Angas, and, therefore, probably type, but not so marked. These two have already been united by Tryon. To me, *L. lesbia* seemed the adult form of *L. acutissima.*

Eulima proxima Sowerby.

Eulima proxima Sowerby, Conch. Icon., xv., 1866, Pl. vi., sp. 48.

The late Prof. R. Tate concluded,* from a study of the British Museum series, that *Eulima proxima* of Sowerby was the same as *E. augur* Angas. I found, in the South Kensington collection, one specimen marked type, of *E. proxima* Sowerby, from Port Jackson, presented by G. F. Angas. Again, there are two specimens marked types, *E. augur* Angas, from St. Vincent's Gulf, also presented by G. F. Angas. These seems to me to be different species. *E. proxima* is shorter and broader, with flatter sides, and more sharply angled periphery than *E. augur. E. proxima* has the aperture angled in front, where in *E. augur* it is rounded. All three types have imperfect tips. That of *E. proxima* has eleven whorls remaining; there are very faint lateral varices. There are, in the same collection, three specimens of *E. subangulata* Sowerby,† marked "Indian Seas, from the Old Humphries Collection, M.C." These may possibly be the adult form of *E. proxima.*

Eulima constellata Melvill.

Leiostraca constellata Melvill, Ann. Mag. Nat. Hist. (7), i., 1898, p. 200, Pl. xii., fig. 6.

Subularia piperita Sowerby, Proc. Malac Soc., iv., 1901, p. 209, Pl. xxii., fig. 5.

---

* Tate, Trans. Roy. Soc. S.A., xxii., 1898, p.80.

† Sowerby, Thes. Conch., ii., 1854, p.794, Pl.169, figs.11, 12.

Eulima piperita Hedley, Proc. Linn. Soc. N. S. Wales, xxxiv., 1909, p. 451, Pl. xliii., fig. 85.

Types in the British Museum of *L. constellata* appeared to me like the species I described from the Hope Islands, and now record from Mast Head Reef and Caloundra. Not trusting to my memory for the identification, I afterwards sent specimens for comparison to its author. Conjointly, Mr. J. C. Melvill and Mr. E. A. Smith compared the Queensland *piperita* with the Aden *constellata* and the Philippine *piperita*. The Australian shells are rather smaller than the others, but my friends pronounce the three to be identical. The repetition of the second and third synonyms is a coincidence.

Stilifer marginata Tenison-Woods.

Eulima marginata Ten.-Woods, Proc. Roy. Soc. Tasm., 1878, (1879), p. 40.

Stilifer lodderæ Petterd, Journ. of Conch., iv., 1884, p. 140; *Id.*, Hedley, Proc. Linn. Soc. N. S. Wales, xxv., 1900, p. 92, text-figure.

Stylifer crotaphis Watson, Chall. Zool., xv., 1886, p. 525, Pl. 37, fig. 10.

In the British Museum is a single specimen, evidently the type but not so marked, of *Stilifer crotaphis* Watson. This I recognised as a young specimen of the previously described *S. marginata* Ten. Woods.

Dr. Boog Watson was unfortunately possessed by a zealous but mistaken anxiety to exhaust his material. He was thus led here and elsewhere to found, on immature, imperfect and single specimens, species already named, such as *Alaba sulcata* for *Strombus campbelli; Trochus tinctus* for *Calliostoma allporti; Turritella phillipensis* for *Turritella gunni;* and *Murex cordismei* for *Murex angasi.*

Stilifer guentheri Angas.

Apicalia guentheri Angas, Proc. Zool. Soc., 1877, p. 35, Pl. 5, fig. 6.

Stilifer guentheri Sowerby, Thes. Conch., v., 1884, p. 160, Pl. 479, fig. 1; *Id.*, Boettger, Nach. Malak. Gesell, xxv., 1893, p. 166.

Eulima guentheri Tryon, Man. Conch., viii., 1886, p. 283, Pl. 70, fig. 100.

In the British Museum, I saw one specimen, marked type "Apicalia guentheri, Angas, N.S.W., Pres. Dr. J. G. Jeffreys"; and again, two "? guntheri, Angas, Mauritius, Robillard, Parasite on Holothuria." I have seen several specimens of *S. guentheri* from Lifu, Loyalty Islands, and I am satisfied that this species is not, as stated, a native of New South Wales.

Cymatium doliarium Linné.

Murex doliarium Linné, Syst. Nat., xii., 1767, p. 1223.

Tritonium doliarium Angas, Proc. Zool. Soc., 1867, p. 189.

Cymatium doliarium Shirley, Proc. Roy. Soc. Queensland, xxiii., 1911, p. 98.

This species has been reported by Angas from New South Wales, and by Shirley from Torres Straits. All the specimens in the British Museum collection are from South Africa. There can be no doubt that these Australian records are fictitious.

Cymatium boltenianum A. Adams.

Triton boltenianus A. Adams, Proc. Zool. Soc., 1854 (1855), p.311; *Id.*, Angas, *op. cit.*, 1867, p.188.

This species was originally recorded from Australia, and Angas afterwards reported it from Long Bay, near Sydney. No other collector has met with this unfigured species. In the British Museum, I found a specimen labelled "Triton spengleri, Lamk., Red Sea," which corresponded well to two shells in the same collection ticketed "Triton boltenianum, A. Adams, N. S. Wales, Pres. G. F. Angas." I now conclude that the Red Sea is the right locality for this form, which should be excluded from Australian lists.

Argobuccinum tumidum Dunker.

Ranella tumida Dunker, Proc. Zool. Soc., 1862, p.239,

Bursa tumida Dunker, Novit. Conch., 1864, p.56, Pl.xviii., f.8,9.

Ranella vexillum Menke, Moll. Nov. Holl. Spm., 1843, p.24; *Id.*, Tenison-Woods, Proc. Roy. Soc. Tasm., 1877 (1879), p.28.

Apollo argus Tate and May, These Proceedings, xxvi., 1901, p.356.

Ranella argus Hutton, These Proceedings, ix., 1885, p.933; *Id.*, Verco, Trans. Roy. Soc. S.A., xix., 1895, p.104.

Lotorium argus Pritchard and Gatliff, Proc. Roy. Soc. Victoria, x., 1898, p.267.

Under the names of *Ranella argus* and *R. vexillum*, this species has been identified by Menke from West Australia, by Verco from South Australia, by Pritchard and Gatliff from Victoria, by Tenison-Woods from Tasmania, and by Hutton from New Zealand. According to the British Museum Collection, *A. argus* is a distinct species from South Africa. While *A. vexillum*, which is more nearly related to *A. tumidum* than to *A. argus*, is from South America. In London, there are three specimens, types of *A. tumidum* Dunker, labelled "Nova Seelandia." This appears to me the correct name of the species, extending from New Zealand to Tasmania and Australia. Tryon presented a whole austral group of *argus*, *vexillum*, *tumidum*, *proditor*, etc., as a single species. The earliest name for the South American form is not *Ranella vexillum* Sowerby, 1835, but *Triton ranelliformis* King, 1831.

Natica gualteriana Recluz.

Natica gualteriana Recluz, Proc. Zool. Soc., 1843(1844), p.208; *Id.*, Journ. de Conch., i., 1850, p.396; *Id.*, Philippi, Conch. Cab. ii.,(1) 1852, p.71, Pl. xi., f.8; *Id.*, Reeve, Conch. Icon., ix., 1855, Pl. xxv., fig.114.

Natica marochiensis Angas, Proc. Zool. Soc., 1867, p.197, and 1877, p.236; *Id.*, Brazier, These Proceedings, i., 1877, p.236; *Id.*, Shirley, Proc. Roy. Soc. Queensland, xxiii., 1911, p.98.

In the British Museum, at least two species are exhibited as "maroccana Chemnitz," or "maroccana var." There is a tablet with five specimens labelled "maroccana, Chemnitz, Cape York, N. Australia, J. B. Jukes, Natica marochiensis, Lamk. Voy. Ast. t.66, f.16." This has a low spire, radial furrows on the shoulder, and the operculum of Cochlis, *i.e.*, with a single marginal sulcus. Again, there are three specimens from Senegal, and three from the River Gambia, (the latter alternatively marked "Gambiæ, Reeve") which, though called by the same name as the Cape

York series, differ by having a higher spire, finer shoulder-wrinkles, and the operculum of *Natica*, i.e., spirally sulcate. Again, another form which I need not discuss, appears under this name from Demerara and Mazatlan. Specimens obtained at Aden by Major Yerbury agree with the Cape York shells.

With the Cape York shells, there also agrees a set of three, labelled "Gualteriana, Pet., from Isle of Bohol, M.C." Though these are not marked types, I have some confidence in regarding them as the originals of Reeve's figure, and of the second description of Recluz, which differs in minor details from the first. Even the error of Cuming's clerk, in misquoting the editor for the author of the species, supports their authenticity.

Granting this, "maroccana" or "marochiensis" may be reserved, as the name implies, for an African species; while the Australian shell thus miscalled by Angas, Brazier, and Shirley should be referred to *gualteriana*. Misquoting the species as of Petit, Melvill and Standen have noticed *N. gualteriana* from Boydong Cays, near Cape York. I have catalogued it from Mast Head Island.

Philippi's account of *Natica avellana* suggests to me that it is closely related to *N. gualteriana*.*

Natica vitellus Linné.

Nerita vitellus Linné, Syst. Nat. x., 1758, p. 776, for Rumphius, Pl. xxii., fig. D, fide Hanley, Ips. Linn. Conch., 1855, p. 394.

Nerita rufa Born, Index Caes. Vind., 1778, p. 413; *Id.,* Test. Mus. Caes. Vind., 1780, p. 398, Pl. 17, figs. 3, 4; *Id.,* Brauer, Sitz. Akad. Wiss., lxxvii., 1878, p. 70.

Nerita fasciata Martyn, Univ. Conch., iii., 1786, Pl. 110, right fig.

Not *Natica vitellus,* of Lamarck and of authors generally, which is *Nerita stellatus* Martyn, Univ. Conch., iii., 1786, Pl. 110, left fig.; *Id.,* von Martens, Mal. Blatt., xix., 1872, p. 45.

Hanley shows that the *Nerita vitellus* of Linné is not the *Natica vitellus* of other writers, but is the *Nerita rufa* of Born. The shell universally but erroneously called *Natica vitellus* must now take

* Phillipi, Conch. Cab., ii.,(1) 1852, Pl. xi., fig. 14.

the name of *Natica stellatus* Martyn. Three specimens of *N. vitellus* (so-called) in the British Museum, from Ticao, have the operculum of Cochlis. The real *N. vitellus* has not hitherto been reported from Australia, but I have found it at the Palm Islands, Queensland. And I have gathered *N. stellatus* Martyn, on Murray Island, Torres Straits.

Polinices conicus Lamarck.

Natica conica Lamarck, An. s. vert., vi., 1822, p. 198.

Natica pyramis Reeve, Conch. Icon., ix., 1855, Pl. 21, fig. 93.

In the British Museum are two specimens, apparently types, but not so marked, labelled "pyramis, Reeve, from Swan River, Australia, found in sandy mud, 10 fms., Lt. Collie, R.N., M.C." These specimens are certainly a white form of *conicus,* but their identity has never been recognised. In the Geneva Museum, two types of *N. conica* bear Lamarck's autograph label.

Polinices aulacoglossa Pilsbry and Vanatta.

Natica chemnitzii Reeve, Conch. Icon., ix., 1855, Pl. 2, fig. 7; (not *Natica chemnitzii* Pfeiffer, Krit. Register Conch. Cab., 1840, p. vii., for Chemnitz, Conch. Cab., v., 1781, p. 270, Pl. 188, fig. 1905-6); *Id.,* Angas, Proc. Zool., Soc., 1867, p. 198; *Id.,* Adams, Genera of Recent Mollusca, Pl. xxii., fig. 3 (animal).

Polinices aulacoglossa Pilsbry and Vanatta, Proc. Acad. Nat. Sci. Philad, lx., 1908, p. 558, Pl. xxix., fig. 1, 2, 3.

Cyclostrema kingii Brazier Mss., Tenison Woods, Proc. Roy. Soc. Tasm., 1877, p. 39.

Under the name of *Natica didyma* Bolten, several related species, representing one another in different seas, were lumped together by Boog Watson, Tryon and other authors. That from the Peronian region is an elevate, globose and narrowly perforate form called *N. chemnitzii* by Reeve. The locality, unknown to its author, was supplied by Angas. The bare name of *Cyclostrema kingii,* which recurs at intervals in the literature of Tasmanian shells, refers to the youngest growth-stage of this species. As Reeve's name was spoilt by an earlier one of Pfeiffer's, Pilsbry and Vanatta have lately redescribed the Australian shell as *Polinices aulacoglossa.*

In the British Museum, a Tasmanian example of *P. aulacoglossa* is misnamed *tasmanica* Woods, an error supported by Pritchard and Gatliff.* But Tenison Woods, well acquainted with the identification of *chemnitzii* by Angas, would not have considered it as new. Then *tasmanicus* is present as described from the south of Tasmania, where *aulacoglossa* is absent; it is said to be 16 mm. across, but *aulacoglossa* is twice or thrice as much; *tasmanicus* has a spiral groove on the pad, running along the edge, the transverse furrow of *aulacoglossa* would not be so described; *tasmanicus* has the umbilicus partly filled up, "obtecte," but that of *aulacoglossa* is open. Then *aulacoglossa* would not be mistaken for a small form of *baconi* or *plumbea,* while these comparisons are natural for *tasmanicus.*

In the Solanderian region, a variety occurs of the *didymus* group, which, in the British Museum, is shown as *N. bicolor* Phil,† from Torres Strait. I find it to range south to Port Curtis.

Polinices nuxcastanea Martyn.

Nerita nuxcastanea Martyn, Univ. Conch., iii., 1786, Pl. 106.

Natica maura Lamarck, Encycl. Méth., 1816, Explanations of Pl. 453, fig. 4.

Polinices maura Shirley, Proc. Roy. Soc. Queensland, xxiii.,1911, p. 98.

As "*Mammilla maura* Lamarck," three specimens, taken by Jukes on Darnley Island, are shown in the British Museum. Unfamiliar with synonymy, Shirley has mentioned it as new to Queensland, under Lamarck's name. But, by the prior name of Martyn, it was already included in the catalogue of marine mollusca of Queensland.

Ancilla cingulata Sowerby.

Ancillaria cingulata Sowerby, Species Conch. i., 1830, Ancillaria, p. 6, figs. 36, 37.

Ancillaria tricolor Gray, Append. Voy. Fly, ii., 1847, p. 357, Pl. i., fig. 4; Not *A. tricolor* Sowerby, Thes. Conch. iii., 1859, p. 63, Pl.

* Pritchard and Gatliff, Proc. Roy. Soc. Vict., xiii., 1900, p.191.

† Philippi, Conch. Cab., ii., 1852, p.43, Pl.vi., f.4.

211, figs. 9, 10; Nor *A. tricolor* Reeve, Conch. Icon. xv., 1864, Pl. xi., fig. 48.

Five shells in the British Musuem are labelled, "tricolor Gray, Voy. Fly, ii., 357, Pl. i., 4, enlarged, Cape York, M.C." They were about half an inch in length, solid, highly polished, ovate-acuminate, with a faint umbilical furrow. The colour is buff, with white on the base and on a subsutural band, the latter succeeded by an orange thread.

Notes on the tablet indicate that these five are identical with *A. novaezelandiae* Sowerby, and with *A. nana* Watson.

In every particular, these five fail to agree with Gray's account, and I regard them as wrongly determined. But Gray's figure and description agree precisely with *A. cingulata* Sowerby, which I have collected just where the original *A. tricolor* was taken. Sowerby and Reeve evidently derived their information about *A. tricolor* from a substitute, not from authentic material. By a further complication, *A. bicolor,* meaning *A. tricolor* Sowerby, not *A. tricolor* Gray, is reported from New Zealand in place of *A. novæzelandiæ.**

Tryon erred in uniting *A. novæzelandiæ* to *A. sinensis* Sowerby, and *A. inornata* Smith.† The London collection shows these to be distinct species. *Ancilla obesa* Sowerby, and *A. mauritiana* Sowerby, have been reported as Australian, but such references are apparently erroneous.

Marginella translucida Sowerby.

Marginella translucida Sowerby, Thes. Conch., i., 1846, p. 376, Pl. 75, figs. 62, 63.

M. volutiformis Reeve, Conch. Icon. xv., 1865, Pl. 24, fig. 31.

From the Cuming Collection are three poor specimens, which, if not types, are yet probably authentic specimens, labelled "*M. translucida* Sow., Thesaurus i., p. 376, Pl. 75, fig. 62-3, Hab. Australia," but on the face of the tablet "W. Indies." Again there is a single specimen marked type, labelled, "volutiformis, Rve. Conch. Icon., f.

---

* Hutton, Index Faun. Nov. Zealand, 1904, p.74.

† Tryon, Man. Conch., v., 1883, p.95.

131, Hab. —?, Pres. Mrs. T. Lombe Taylor." This is 8 mm. long, and 4·5 broad. It agrees with the three *translucida.*

The habitat is fixed by a series labelled "translucida Sowerby" from J. Brazier, collected near the mouth of the Richmond River, N. S. Wales. These are a little smaller than Reeve's type. Angas had already reported *M. translucida* from Middle Harbour.*

The synonymy of this species has been much abused by authors. Weinkauff erroneously unites *M. strangei* Angas to *M. translucida,*† which is accepted by Tryon. In his turn, Tryon considers *M. volutiformis* to be a variety of *M. turbinata* Sowerby. Also that *M. pygmaea* Sowerby is the same as *M. translucida,* in which he was followed by Pritchard and Gatliff.

Marginella attenuata Reeve.

Volvaria secalina Philippi, Enum. Moll. Sicil., ii., 1844, p. 197, Pl. 27, fig. 19.

Marginella nitida Hinds, Proc. Zool. Soc. 1844, p.75; *Id.,*Sowerby, Thes. Conch. i., 1846, p. 389, Pl. 76, fig. 131.

Marginella attenuata Reeve, Conch. Icon. xv., 1865, Pl. xxii., fig. 116.

Marginella paxillus Reeve, Conch. Icon. xv., 1865, Pl. xxiv., fig. 133.

In London, it was pointed out to me, by Mr. J. R. Le B. Tomlin, that *M. attenuata* was founded on a Mediterranean shell, and that the Australian and South African localities assigned to it are false. Reeve's statement that Strange gathered *M. attenuata* at Sydney, induced local collectors to try to fit some Port Jackson species, such as *M. translucida,* to it.

But Reeve's species was first described from Sicily by Philippi as *Volvaria secalina.* A note on the under-side of the Museum tablet unites this to *M. nitida* Hinds. Again, *M. paxillus* Reeve is, according to the type, identical.

So *Marginella attenuata,* a weary record of the carelessness and incapacity of Lovell Reeve, may now disappear from lists of the Australian fauna.

---

* Angas, Proc. Zool. Soc., 1867, p.196.

† Weinkauff, Jahrb. Deut. malak, Gesell., vii., 1880, p.47.

Cancellaria australis Sowerby.

Cancellaria australis Sowerby, Conch. Illust., 1832, fig. 23.

C. undulata Sowerby, Proc. Zool. Soc., 1848, p. 136; *Id.*, Sowerby, Thes. Conch., 1849, Pl. 92, fig. 12, Pl. 95, fig. 79.

The types of *Cancellaria* described by Sowerby are not available at South Kensington. From that collection, it appears that *C. undulata* is identical with *C. australis;* that Tryon erred* in uniting a Japanese species, *C. spengleriana* Deshayes, to *C. undulata;* and that *C. granosa* Sowerby, from Tasmania, is a geographical race separable varietally, if not specifically, by the grains on the ribs.

Terebra brevicula Deshayes.

Terebra brevicula Deshayes, Proc. Zool. Soc., 1859, p. 296; *Id.*, Reeve, Conch. Icon., xii., 1860, Pl. xxii., fig. 119.

In the British Museum, I found a shell marked type, labelled, "*T. brevicula,* Desh., P.Z.S., 1859, p.296, Van Diemen's Land," and another, the original of Reeve's figure, and again another. These are in poor condition, and appear to have been bathed in acid. What is left of them answers fairly to half-grown shells of *T. albocincta* Carpenter, from California.

This name, which has long been a nuisance to Australian conchologists, can now be definitely rejected from our catalogues.

Terebra buccinulum Deshayes.

Terebra buccinulum Deshayes, Proc. Zool. Soc., 1859, p. 282; Id., Reeve, Conch. Icon., xii., 1860, Pl. xx., fig. 101.

This species was described from "East Australia," but it apparently does not occur here. In the British Museum, under the genus *Leiodomus* of Swainson, are two specimens marked "type Bullia turrita Gray, Zool. Beechey's Voy., Reeve Conch. Icon. sp. 16." Except in colour, these are identical with one marked "type, Terebra buccinulum Deshayes, East coast of Australia, Journ. de Conch., 1857, vol. vi., f. 9."

---

* Tryon, Man. Conch., vii. 1885, p.67.

Terebra fenestrata Hinds.

Terebra fenestrata Hinds, Proc. Zool. Soc., 1843, p. 153; *Id.*, Thes. Conch., i., 1844, p. 176, Pl. 44, fig. 86.

T. cœlata Adams and Reeve, Voy. Samarang, Moll., 1850, p. 30, Pl. 10, fig. 22; *Id.*, Brazier, These Proceedings, i., 1877, p. 255.

It is suggested beneath the tablet of one, perhaps type, but not so marked, labelled, "T. cœlata Ad. & Reeve, China, Voy. Samarang, M.C.—compare with fenestrata—." On making the comparison with three marked as types of *T. fenestrata,* I considered the names synonymous. As *T. cœlata*, Brazier has recorded the species from 20 fms., Darnley Is., Torres Straits.

Terebra turrita Smith.

Terebra turrita Smith, Ann. Mag. Nat. Hist. (4), xi., 1873, p. 266; Id., Watson, Chall. Zool., xv., 1886, p. 381, Pl. xiv., fig. 8.

The type of *T. turrita* figured in the Challenger Expedition Report, illustrative of a species found in Torres Straits, is so distinguished at the British Museum. This has the aperture broken back for a quarter of a whorl, hence the figure of the mutilated specimen is a misleading representation of the species. In the same collection, *T. textilis* Hinds is represented by three marked "type *textilis* Hinds, P.Z.S., 1843, p. 156, 6 fath., Manila Bay, M.C." Between these and *turrita,* I see scarcely enough difference for specific separation. Indeed, *T. textilis* and *T. fenestrata* Hinds are not far apart, the latter being proportionately broader, and having coarser sculpture. Comparing *T. turrita* and *T. exigua* Deshayes, I notice that, between the subsutural nodules, *exigua* is spirally striated and *turrita* smooth.

Terebra polygyrata Deshayes.

Terebra polygyrata Deshayes, Proc. Zool. Soc., 1859, p. 301; *Id.*, Reeve, Conch. Icon., xii., 1860, Pl. xxvi., fig. 146.

T. subtextilis Smith, Proc. Zool. Soc., 1879, p. 185, Pl. xix., fig. 3; *Id.*, Shirley, Proc. Roy. Soc. Qsland, xxiii., 1911, p. 100.

Mr. E. A. Smith described *T. subtextilis* from Japan, and Dr. J. Shirley records it from Bowen, Queensland. *T. polygyrata* was

dredged by the Challenger Expedition in 25 fathoms, west of Cape York. On comparing examples of these two in the British Museum, I am unable to distinguish specific differences.

Terebra flammea Lamarck.

Terebra flammea Lamarck, Anim. s. vert., vii., 1822, p. 284; *Id.,* Reeve, Conch. Icon., xii., 1860, Pl. iv., fig. 13; *Id.,* Reeve, Proc. Zool. Soc., 1860, p. 450.

Reeve has recorded *T. flammea* from Moreton Bay, Australia. Material in the British Museum indicates that this species, and its variety, *T. incomparabilis* Deshayes, inhabit the West Indies. The Australian habitat is therefore a mistake. It does not appear to have been remarked that *Epitonium feldmanni* Bolten, 1798, is an earlier name for Lamarck's species.

Duplicaria vallesia Hedley.

Duplicaria vallesia Hedley, Rec. Austr. Mus., viii., 1912, p. 147, Pl. 43, fig. 31.

This species closely resembles, but is specifically distinct from, *T. geminata* Deshayes.* A Natal specimen, in the British Museum, of *T. geminata* is more tapering, has a more twisted columella, and its ribs continue on the base, whereas *D. vallesia* has a smooth base. The median groove is a broader and deeper in *geminata,* and the nodules above alternate with the ribs instead of continuing them, as in *vallesia.*

Duplicaria addita Deshayes.

Terebra addita Deshayes, Proc. Zool. Soc., 1859, p. 293.

This species was originally described from Tasmania, but, like *Terebra brevicula,* it has been sought for in vain by local collectors. The species is evidently foreign. One in the British Museum is marked "type T. addita Desh., P.Z.S., 1859, p. 293, V. Diemen's Land, M.C." This, I consider conspecific with three, perhaps type but not so marked, labelled, "*T. spectabilis* Hinds, P.Z.S., 1843, p. 150—Thesaurus, fig. 88 & 89. Guinea on the sands and Ceylon, E. Layard, Esq. = gracilis, Gray."

* Deshayes, Proc. Zool. Soc. 1859, p.296; *Id.,* Reeve, *op. cit.,* 1860, p.450.

T. spectabilis has already been reported from New South Wales by Angas, and from Torres Straits by Brazier. Perhaps these reports refer to *D. vallesia.*

Conus anemone Lamarck.

Conus anemone Lamarck, Ann. du Museum, xv., 1810, p. 272.

C. maculosus Sowerby, Conch. Illus., Conus, 1833, Pl. i. fig. 3.

C. jukesii Reeve, Conch. Icon., i., Conus Suppl., 1848, Pl. ii., fig. 278.

C. novæhollandiæ A. Adams, Proc. Zool. Soc. 1853 (1854), p. 119; *Id.,* Thes. Conch., iii., p. 31, Pl. 199, fig. 298-9.

C. maculatus Sowerby, Thes. Conch., iii., 1858, Pl. 199, fig. 296.

C. rossiteri Brazier, Proc. Zool. Soc., 1870, p. 109.

There is no general agreement on the treatment of this common and variable shell. From Lamarck's phrase "tenuissime striata," and from Kiener's figure of a Lamarckian specimen, I suppose that the typical form of *C. anemone* is the variety with coarse revolving threads, called by A. Adams, *C. novæhollandiæ.* This is represented, in the British Museum, from Port Essington, coll. Capt. Wickham, and from Tasmania, coll. R. Gunn. To my knowledge, it is absent from the east coast of Australia.

Conus maculosus Sowerby, was described from the Philippine Islands, and is asserted by Hidalgo* to exist there. Probably no type is extant. Sowerby's figures and description are hardly enough for exact determination. If tradition, as embodied in the British Museum collection, can be trusted, *C. maculosus* is not a Philippine shell, but a native of New South Wales. It is thinner, smoother, more inflated, and with a lower spire than *C. novæhollandiæ.*

C. jukesii, which also occurs in New South Wales, is a smooth, short, broad, form, with a low spire. Of this, *C. rossiteri* is a trivial colour-variation.

These expressions of *C. anemone* may be summed up thus:—

Var. *novæhollandiæ* A. Adams. Tall, solid, with raised close revolving threads, spire elevated. North, West, and South Aus-

* Hidalgo, Cat. Molus. Test. islas Filipinas, 1905, p. 101.

tralia. Kiener, Conus, Pl. 46, fig. 3; Conch. Icon., Pl.25, fig. 139b; Thes. Conch. iii., Pl. 199, figs. 298-299.

Var. *maculosus* Sowerby, = *maculatus* Sowerby. Thin, smooth, inflated, of medium height. New South Wales and Lord Howe Island. Conch. Ill., fig. 3; Conch. Icon., Pl. 25, fig. 139a; Thes. Conch. iii. Pl. 13, fig. 264.

Var. *jukesii* Reeve. Thin, smooth, short, broad, spire depressed. Colour disposed in large masses. New South Wales. Conch. Icon., suppl., Pl. 2, fig. 278.

Tryon, followed by Watson, Pritchard, Gatliff, etc., included among the synonymy of *C. anemone* the name of *C. ardisiacus* Kiener. But according to the British Museum collection, *C. ardisiacus* is the South African shell otherwise known as *C. tinianus* Hwass, varieties of which are *C. rosaceus* Chemnitz, and *C. scutor* Crosse. The African and Australian shells are much alike. *C. anemone* differs in being more solid, more angled at the shoulder, and deeply grooved on the summits of the whorls.

Perhaps it was a form of *C. anemone,* which Angas* found in Middle Harbour, Sydney, and misreported as *C. grayi* Reeve. On a series in the British Museum, marked as types of *C. grayi* Reeve, it is noted that it is a West African species allied to *C. portoricanus* Hwass. *C. grayi* is extremely like a form of *anemone,* but has a roundly bevelled shoulder, which the Australian species has not.

Weinkauff, of course, erred† in associating *C. cabriti* Bernardi (= *taylorianus* Smith), *C. borneensis* Sowerby, and *C. compressus* Sowerby, with *C. anemone.*

Conus aplustre Reeve.

Conus aplustre Reeve, Conch. Icon., i., 1843, Pl. xxx., fig. 170; *Id.,* Smith, Proc. Malac. Soc., v., 1903, p. 361.

C. neglectus A. Adams (non *C. n. Pease*, 1860 = *C. peasei* Brazier, 1877), Proc. Zool. Soc., 1853 (1854), p. 117.

C. cookii Brazier, Proc. Zool. Soc., 1870, p. 109.

---

* Angas, Proc. Zool. Soc. 1867, p.205.

† Weinkauff, Jahrb. malak. Gesell. i., 1874, p.277.

This is the eastern analogue of *C. rutilus* Menke. No locality was given in the original description of this species. By an odd error, the type in the British Museum is now labelled "Cape of Good Hope," the Australian localities quoted by Brazier, Angas, Bergh, Pritchard and Gatliff, being overlooked.*

The type of *C. neglectus* A. Adams is noted, at South Kensington, as being equivalent to *C. aplustre*. *C. cooki* Brazier is a variety of *aplustre* in which the interrupted spiral lines have coalesced into ziczac radials. Smith has remarked† that Tryon erred in uniting *C. multicatenatus* to *aplustre*.

Conus cyanostoma A. Adams.

Conus cyanostoma A. Adams, Proc. Zool. Soc., 1853, (1854), p. 116; Id., Sowerby, Thes. Conch., iii., 1858, p. 19, Pl. 4, fig. 304.

Conus coxeni Brazier, Proc. Zool. Soc., 1875, p. 34, Pl. 4, fig. 4; Id., Hedley, Proc. Linn. Soc. N. S. Wales, xxx., 1906, p. 535.

Conus innotabilis Smith, Proc. Zool. Soc., 1891, p. 487, Pl. xl., fig. 1.

In error, Arthur Adams reported *Conus cyanostoma* from West Africa, instead of from East Australia. By this hitherto uncorrected mistake, the name has been lost to Australian conchology. The type, marked as such, is preserved in the British Museum, and is noted by Mr. E. A. Smith as conspecific with *C. coxeni*. The typical form is nearer *innotabilis*, while *coxeni* is a variety. J. B. Jukes dredged this species off Sandy Cape, Queensland.

Conus tasmaniæ Sowerby.

Conus tasmaniæ Sowerby, Thes. Conch., iii., 1866, p. 328, Pl. 288, fig. 636.

This species, as the name implies, was alleged by its author to be from Tasmania, but local naturalists have failed to find it there. A single specimen of the South Kensington collection, in a poor state of preservation, is marked, "Type, Conus tasmaniæ, Sow.,

* Brazier, Proc. Zool. Soc. 1869, p.562; Angas, *op. cit.*, 1871, p.93; Bergh, Nov. Act. Ksl. Leop.-carol. Deut. Akad. lxv., 1895, p.131; Pritchard and Gatliff, Proc. Roy. Soc. Vict., 1906, p.52.

† Smith, Proc. Zool. Soc. 1891, p.400.

Thesaurus, f. 636, Pres. G. F. Angas." An examination of this induces me to add *C. tasmaniæ* to the already extensive synonymy of the common tropical *C. magus* Linné. Sowerby's locality is, of course, false.

Drillia vexillum Reeve.

Pleurotoma vexillum Reeve, Conch. Icon. ii., 1845, Pl. xxix., fig. 264; *Id.,* Angas, Proc. Zool. Soc., 1867, p. 203.

This was reported by Angas from Middle Harbour, near Sydney. In the British Museum, a specimen labelled *Pl. vexillum,* Rve., is marked "St. Vincent's, West Indies." This, and the fact that no other observer has found it in Australia, cause the record of Angas to be distrusted.

Mangelia mitralis Adams and Angas.

(Plate xix., fig. 75.)

Bela mitralis Adams and Angas, Proc. Zool. Soc., 1863, p. 420.

The present figure is derived from one of two in the British Museum, marked as types of *Bela mitralis.*

Mangelia australis Adams and Angas.

(Plate xix., fig. 76.)

Bela australis Adams and Angas, Proc. Zool. Soc., 1863, p. 420; *Id.,* Pritchard and Gatliff, Proc. Roy. Soc. Vict., xii., 1900, p. 173; *Id.,* Verco., Trans. Roy. Soc. S.A., xxxiii., 1909, p. 311.

M. australis has not been previously figured. The type in the British Museum is here illustrated. By Pritchard and Gatliff, it is united to *M. mitralis,* and Verco further links it to *M. tasmanica* and to *M. jacksonensis.*

Mangelia nassoides Reeve.

Pleurotoma nassoides Reeve, Conch. Icon., ii., 1845, Pl. xxix., fig. 259.

Clathurella zonulata Angas, Proc. Zool. Soc., 1867, p. 113, Pl xiii., fig. 17.

In the British Museum are two specimens marked, "Clathurella zonulata Angas. Type, Pres. G. F. Angas." Beneath this tablet

is a note, "allied to nassoides Gray." Five worn specimens, about half an inch long, perhaps Reeve's types, but not so marked, represent *nassoides;* they are labelled "Conch. Icon. i., f. 259. Hab. West Indies." These, I consider, can be definitely united to *C. zonulata.* The name *nassoides* does not seem to have appeared in American literature, which suggests that the West Indian habitat is erroneous, and agrees with the suggestion that this name should be adopted for the Sydney shell.

Clavatula quisqualis Hinds.

Clavatula quisqualis Hinds, Proc. Zool. Soc., 1843, p. 44; *Id.,* Brazier, These Proceedings, i., 1877, p. 157.

Brazier has recorded this from Darnley Island, Torres Straits. But, in the British Museum, two, perhaps types but not so marked, are labelled, "W. coast of Central America, Sir E. Belcher Coll." These two habitats are incompatible. An Oriental representative of *C. quisqualis* was described by Nevill as *Drillia lucida.**

Clathurella peregrina Gould.

Clathurella peregrina Gould, Proc. Boston Soc. Nat. Hist., 1861, p.337; *Id.,* Tenison-Woods, These Proceedings, ii., 1878, p.258.

This species was described as from Sydney Harbour. It has never been figured. I was unable to find a specimen in any of the Museums I visited. Tenison-Woods hints that it may be *C. brenchleyi* Angas, but it had best be written off as unrecognisable and lost.

Drillia æmula Angas.

(Plate xix., fig. 77.)

Drillia æmula Angas, Proc. Zool. Soc., 1877, p. 36, Pl. v., fig. 4.

A study of the series in London leads me to consider that this species should be rejected as Australian, and that it is a native of New Zealand, where it was previously described as *Pleurotoma trailli* Hutton. In the British Museum is a specimen of *D. æmula* marked as the type, and labelled as from Port Jackson, which is here figured. No subsequent collector has found it in New South

* Nevill, Journ. Asiat. Soc. Bengal, xliv., 1875, p.84, Pl. viii., f.15.

Wales. It was also reported in Victoria as from "Portland (Mrs. A. F. Kenyon), one specimen." So many exotic species, such as *Murex endivia, Drillia crenularis, Lotorium australe, Cassis fimbriata*, and *Euchelus atratus* have been noted thus, that the association does not inspire confidence.

A related form is *D. harpularia* Des Moulins, which differs by the radial riblets being more in number, oblique instead of vertical, and by the interspaces being smooth instead of deeply grooved, as in *D. æmula.*

Drillia exarata Reeve.

Pleurotoma exarata Reeve, Conch. Icon., i., 1845, Pl. xxiii., fig. 201; *Id.,* Verco, Trans. Roy. Soc. S.A., xxxiii., 1909, p. 296.

In the British Museum, this species is represented by three lots; first, a single specimen marked as type; secondly, another labelled "exarata, Reeve, (?) Panama, Jewett from the Smithsonian Inst. 65/11/12"; thirdly, two from St Vincent's Gulf, presented by Dr. Verco. The type, which is worn, differs decidedly from Dr. Verco's shells. Both are the same general size and shape, but Dr. Verco's are a little broader at the last whorl, and have raised spiral threads cut into beads by radial grooves, whereas the type has no spirals. The Jewett shell is a mere wreck, though as far as it goes it agrees with Reeve's type. But I can find no note on *D. exarata* in American literature.

No definite conclusions are offered on this subject, but the facts above recited, suggest that further enquiry is desirable, and that the Australian habitat may be impugned.

Mitra carbonaria Swainson.

This species has already been discussed, and at some length, in these Studies (*antea,* xxxiii., p. 461), where it is shown to be what in Australia has been commonly but erroneously called *M. melaniana* Lamarck. In the British Museum, I examined the unique type of *M. digna* A. Adams, and was satisfied that, as has been stated already, it should be included in Swainson's species.

I also found, in the same case, one specimen marked type, and labelled, "M. badia Rve., Conch. Icon., ii., f. 157, Hab. ? M.C."

This I recognised as an immature individual of *M. carbonaria.* This species presents two variations, perhaps of sexual dimorphism; the first, *badia,* shorter, stouter and darker; the second, *digna,* longer, more slender and paler. The orange line below the suture, and the microscopic punctate striæ are common to both.

It was a mistake of Tate and May* to unite *M. badia* Reeve to *M. rosettæ* Angas. The British Museum has three marked types labelled "Mitra rosettæ, Angas, Encounter Bay, South Australia. Pres. G. F. Angas, 70/10/26." A clear distinction between the two lies in the sculpture. The spiral grooves of *M. rosettæ* are widely spaced, like those of *M. solida,* but the grooves of *badia* are very fine and crowded.

Mitra rhodia Reeve.

Mitra rhodia Reeve, Conch. Icon., ii., 1845, Pl. xxviii., fig. 225; *Id.,* Marrat, Journ. of Conch., i., 1877, p. 244; *Id.,* Watson, Chall. Zool., xv., 1886, p. 246; *Id.,* Brazier, Journ. of Conch., vi., 1889, p. 67.

In the British Museum are two shells marked "Type Mitra rhodia Reeve, Sydney, M.C. Mr. Strange, Sydney, under stones." This species is like *M. carbonaria,* but is smaller, more slender, and lacks the orange sutural line. The types of *rhodia* and *badia* are nearly the same length, but *rhodia* has two more whorls, and two-thirds the breadth of *badia.* The spiral incised lines of *badia* are much closer. *M. rhodia* is smaller than *M. cookii,* and, apart from difference in colour, *cookii* is more contracted at the base.

Brazier has noted that Angas mistook *M. badia* for *M. rhodia,* which explains the omission of this species from the latter's lists of Port Jackson mollusca. The original habitat was confirmed by the Challenger Expedition. There are, in London, two examples of *M. rhodia* from the Tamar Heads, Tasmania. But Marrat's record of this species from West Africa, needs only be mentioned for rejection.

---

* Tate and May, These Proceedings, xxvi., 1901, p. 360.

Mitra cookii Sowerby.

Mitra cookii (Hanley, MS.) Sowerby, Thes. Conch., iv., 1874, p. 7, Pl. 354, fig. 228.

This shell has not been localised hitherto more exactly than "Australia," and the name has escaped the attention of local collectors. It is, however, common about Sydney, and is evidently the species erroneously recorded by Angas* as *Mitra variabilis* Reeve. It also occurs at Caloundra, Queensland. In the British Museum are two, marked "type, cookei, Sowerby, Australia." These are slender, 35 mm. long, encircled with fine punctate striæ, colour chocolate-ochraceous with a pale median zone.

Mitra legrandi Tenison-Woods.

Mitra legrandi Ten.-Woods, Proc. Roy. Soc. Tasm., 1875, p. 140; *Id.*, Hedley, Rec. Austr. Mus, iii., 1900, p. 219, text-fig.

It has been considered by Tate, May, Pritchard, and Gatliff,† that *M. legrandi* Ten.-Woods is identical with *M. schomburgki* Angas. As *M. legrandi* dates from 21st March 1876, and *M. schomburgki* from 1st August, 1878, the name of Tenison-Woods should take precedence were they united. But, for the following reasons, I consider them distinct.

In the British Museum are two, marked "Types, Mitra schomburgki, Angas, South Australia and Port Phillip. Pres. G. F. Angas, 78/4/10." Again, in the same collection, is one marked "Type Mitra legrandi T. Woods, Tasmania." The latter agrees exactly with my figure, and differs from *M. schomburgki* in form, colour, and sculpture. *M. schomburgki* is more contracted at the base, has more ribs, and wants the peripheral colour-line of *M. legrandi.*

Three specimens from South Australia, presented to the British Museum by G. F. Angas, are determined as *M. analogica* Reeve,‡

---

* Angas, Proc. Zool. Soc. 1871, p.89.

† Tate and May, These Proceedings, xxvi., 1901, p.361; May, Proc. Roy. Soc. Tasm., 1902(1903), p.108; Pritchard and Gatliff, Proc. Roy. Soc. Vict., xi., 1899, p.189.

‡ Reeve, Conch. Icon. ii., 1845, Mitra, Pl.35, fig.293.

These agree with two specimens, subsequently presented by Angas, being the actual types of *Mitra tatei* Angas. I did not see the type of *M. analogica,* and am not prepared to reduce *tatei* to a synonym of that species. Attention is drawn to the subject for future examination.

Mitra sculptilis Reeve.

Mitra sculptilis Reeve, Conch. Icon. ii., 1845, Pl. xxxv., fig. 290.

Mitra delicata A. Adams, Proc. Zool. Soc., 1852, (1853), p. 137; *Id.,* Hedley, These Proceedings, xxxiii., 1908, p. 484, Pl. vii., fig. 1.

In his original description, Adams reported *M. delicata* as dredged by Jukes in 8 fathoms, off Cape York. The Challenger Expedition reported *M. sculptilis* from 3-12 fathoms, off Cape York. In the British Museum, *M. sculptilis* is represented by two, probably types but not so marked. These are identical with the shell I figured for *delicata,* which name should be dropped in synonymy.

Mitra scitula A. Adams,* has similar sculpture, but is smaller and more fusiform. Another relation is *M. obeliscus* Reeve.

Mitra hebes Reeve.

Mitra hebes Reeve, Conch. Icon., ii., 1845, Pl. 35, fig. 292; *Id.,* Brazier, These Proceedings, i., 1877, p. 209.

Mitra hamillei Petit, Journ. de Conch., ii., 1851, p. 259, Pl. vii., fig. 9.

In the British Museum are three types, so marked, of *M. hebes.* Beneath this tablet is noted "= M. hamillei, Petit, Journ. Conch. ii., 1859, t. 7, f. 9. Cape Verd Is., Petit, 1851: Whydah, N.C. of Africa, Capt. Knocker; Angola, Ausorge." In view of this statement, it appears as if the ascription, by Brazier, of *M. hebes* from Darnley Island, was wrong, and that the mention of "Mitra hainillei Petit" by Shirley from Cardwell, Queensland, was also an error,† as was afterwards acknowledged.

---

* Schepman, Siboga Prosobranchiata, 1911, p.285, Pl.xxii., fig.8.

† Shirley, Proc. Roy. Soc. Queensland, xxiii., 1911, p.101; xxiv., 1913, p.56.

Cantharus subrubiginosus Smith.

Tritonidea subrubiginosa Smith, Proc. Zool. Soc., 1879, p. 206, Pl. xx., fig. 40; *Id.*, Gatliff and Gabriel, Proc. Roy. Soc. Vict., xxi., 1908, p. 371.

Pisania bednalli Sowerby, Proc. Mal. Soc., 1895, p. 215, Pl. xiii., fig. 6.

Tritonidea fusiformis Verco, Trans. Roy. Soc. S.A., xx., 1896, p. 219, Pl. 6, fig. 1

From comparison of the types, in the British Museum, of *Tritonidea subrubiginosa* Smith, and of *Pisania bednalli* Sowerby, I find but slight difference, the latter being apparently a geographical race of the former. The Japanese form is a little more coarsely sculptured, and a little larger than the West Australian *bednalli*. There are two species, reported from Australia, but not recognised by subsequent authors, *Purpura glirina* Blainville, and *Buccinum discolor* Kiener, which seem suspiciously like the above.*

Pisania delicatula Sowerby.

Pisania delicatula Sowerby, Journ. of Malac., viii., 1901, p. 101, Pl. 9, fig. 2.

This was described as from "Bird Island, South Pacific." To show how insufficient a direction this is, I remark that there are no less than ten Bird Islands off the Australian coast. From the type of *P. delicatula* in the British Museum, I matched the species as a rare shell from East Australia. I suppose that the type-locality is Bird Island, near Newcastle, N. S. Wales, in S. lat. 33° 15′. It also occurs at the Bunker Group, South Queensland.

Phos terebra Sowerby.

Phos terebra Sowerby, Thes. Conch., iii., 1859, p. 92, Pl. 222, figs. 28, 29.

This species was originally described from Sydney, but has never been seen by any subsequent collector, and should be rejected as exotic. In the British Museum there are two, probably types, but

*Blainville, Nouv. Ann. Mus. i., 1832, p.254, Pl. xii., fig.9; Kiener, Coq. Viv., Buccinum, 1834, p.28, Pl. ii., fig.39.

not so marked, labelled "terebra, Sowb., Sydney, M.C." These I identify as the young of *Phos roseatus* Hinds.

Mörch regards *P. roseatus* Hinds, as *Triton turritus* Menke.*

Nassaria curta Gould.

Nassaria curta Gould, Proc. Boston Soc. Nat. Hist., vii., 1860, p. 328.

No figure of this has appeared. Subsequent literature consists of references to, or repetitions of the above. The type, said to have been gathered by W. Stimpson in Port Jackson, is apparently lost, and I, therefore, recommend that the name be abandoned as unrecognisable. This must not be confused with *Nassa curta* Gould, 1850, acknowledged to be a synonym of *N. horrida* Dunker.

Nassa decussata Kiener

Buccinum decussatum Kiener, Coq. Viv., Buccinum, 1841, p. 109, Pl. xxx., fig. 3.

Nassa decussata A. Adams, Proc. Zool. Soc., 1851, (1852), p.111; *Id.*, Reeve, Conch. Icon., viii., 1853, Pl. xviii., fig. 121; *Id.*, Angas, Proc. Zool. Soc., 1877, p. 180.

In the British Museum are two specimens, labelled, "decussata Kien., Brisbane Water;" and beneath the tablet is added "Atlantic shores of Africa, Kiener, Coq. Viv." As the species has not again been reported from Australia, it is likely that the statement of Adams, repeated but not confirmed by Reeve and Angas, that Strange obtained *N. decussata* in New South Wales, is without foundation.

Arcularia compacta Angas.

Nassa compacta Angas, Proc. Zool. Soc., 1865, p. 154.

In the British Museum are four marked types of "compacta, Angas, S. Australia, G.F. Angas, pres., 70/10/26." The locality is supported by four shells from Adelaide, presented by Mrs. Bowyer. This species of Angas has been, in error, reduced to a synonym of *N. paupera* Gould, by Tate and May; and of *N. rufocincta* A.

* Mörch, Malak. Blatt., xviii., 1871, p.126; Menke, Verzeichn. Conch. Malsburg, 1828.

Adams, by Pritchard and Gatliff.* The type of *N. rufocincta* A. Adams, in the British Museum, is thrice as long, and more coarsely sculptured than *A. compacta,* and the locality given for it is Honduras. Brazier has already pointed out that Angas made a mistake in recording *N. rufocincta* from Sydney.† Angas was followed by Tenison-Woods, who mentioned *N. rufocincta* from Bass Straits.‡ Dr. Shirley has ascribed *compacta* to Bowen, Queensland, where it is unlikely to occur.§ This locality provided the same writer with several fictitious records.

I now regret that I did not obtain a drawing of the type of *compacta.*

Nassa reposta Gould.

Nassa reposta Gould, Proc. Boston Soc. Nat. Hist., vii., 1860, p. 323.

I failed to find an example of this in any Museum. The species has not been figured or recognised by any subsequent writer. It is suggested that the name can be abandoned as that of a lost character.

Pyrene peroniana *nom.mut.*

Columbella bicincta Angas, Proc. Zool. Soc. 1871, p. 89, Pl. i., fig. 3; Not *C. bicincta* Gould, Proc. Bost. Soc. Nat. Hist., vii., 1860, p. 335, = *C. planaxiformis* Sowerby, Proc. Malac. Soc., i., 1894, p. 153, Pl. xii., fig. 1.

In the British Museum are two, marked as types of *Columbella bicincta* Angas. These do not support the assertion by Tryon, Kobelt, and others that this Sydney shell should be called *C. eximia* Reeve. This latter has been recognised by Hervier from Lifu, and differs by smaller size and orange ground-colour. The two species

---

* Tate and May, These Proceedings, xxvi, 1901, p.359; Pritchard and Gatliff, Proc. Roy. Soc. Vict., x., 1898, p.280.

† Brazier, Journ. of Conch., vi., 1889, p.66; and These Proceedings, xii., 1888, p.996.

‡ Tenison-Woods, Proc. Roy. Soc. Tasm., 1877, p.29.

§ Shirley, Proc. Roy. Soc. Q'land, xxiv., 1913, p.56.

are alike in having a pair of snow-flake rings, but *eximia* has flat whorls and a straight or concave spire, whereas *peroniana* has a convex profile and rounded whorls. *P. peroniana* has a peculiar epidermis frilled in thin radial lamellæ, at the rate of about forty to a whorl. *Columbella nycteis* Chenu,* a smaller form, rather differently coloured, from an unknown locality, makes a near approach to the Sydney shell. *P. peroniana* extends to Lord Howe Island. As the species proves to be distinct, and the name to have been pre-occupied by Gould, the choice of a new name becomes a necessity.

Pyrene filmeræ Sowerby.

Columbella filmeræ Sowerby, Proc. Malac. Soc., iv., 1900, p. 3, Pl. i., fig. 8; *Id.*, Shirley, Proc. Roy. Soc. Q'sland, xxiii., 1911, p. 101.

This African shell was reported by Dr. J. Shirley from Torres Strait. With the type in the British Museum, I identified a specimen taken by Mr. J. Brazier at the entrance of the Nambucca River, N.S.Wales.

Pyrene acuminata Menke.

Buccinum acuminatum Menke, Moll. Nov. Holl., 1843, p. 20.

Columbella menkeana Reeve, Conch. Icon., xi., 1858, Pl. xiv., fig. 69.

Pyrene menkeana Verco, Trans. Roy. Soc. S.A., xxxiv., 1910, p. 128.

Reeve replaced Menke's name by another, on the ground that it was preoccupied. But this was not the case, and Menke's prior name should be restored.

Pyrene duclosiana Sowerby.

Columbella duclosiana Sowerby, Proc. Zool. Soc., 1844, p. 48; *Id.*, Thes. Conch., i., 1844, p. 113 bis, Pl. xxvi., figs. 15, 16; Not *C. duclosiana* D'Orbigny, in Sagra, Hist. Isla Cuba, v., 1845, p. 232, Pl. xxi., fig. 31-3.

---

* Chenu, Illustr. Conch., Columbella, 1846, Pl. 17, figs. 5-6.

Except in my catalogue of the marine mollusca of Queensland, this species has not been reported as Australian. A specimen, which I took at Mapoon, in the Gulf of Carpentaria, is inseparable from a series from Singapore, kindly sent to me by Mr. J. R. Le B. Tomlin.

Dr. W. H. Dall remarks that *C. duclosiana* was proposed by Sowerby for an Oriental species, and by D'Orbigny for an American species. Giving the date for the former as 1847, and for the latter as 1845, he suggests that the Oriental species requires a new name. Pace, however, has shown, that the Malayan dates from 1844 and that consequently it is D'Orbigny's name which is latest.*

Pyrene tayloriana Reeve.

Buccinum parvulum Dunker, Zeitschr. f. malak., 1847, p. 64; *Id.*, Philippi, Abbild. Beschr., iii., 1849, p. 65, Pl. ii., fig. 7; Not *Buccinum parvulum* Grateloup, 1833.

Columbella tayloriana Reeve, Conch. Icon. xi., 1859, Columbella, Pl. 35, fig. 225.

C. albomaculata Angas, Proc. Zool. Soc., 1867, p. 111, Pl. 13, fig. 5; Id., Watson, Chall. Rep. Zool., xvi., 1886, p. 234.

In the British Museum are two shells, marked type, labelled "tayloriana Reeve, C.I. f. 225a, b. N.W. Australia. Pres. Mrs. T. Lombe Taylor, 74/12/11." With these agree exactly nine, marked type, "albomaculata, Angas, Port Jackson, Pres. G. F. Angas, 70/10/26." In view of the close correspondence between these sets, I judge that the locality of N.W. Australia is false, and that all came from Sydney. Besides Gaskoin, the former owner of the *tayloriana* types, has misreported some New South Wales *Marginella* as from N.W. Australia. Watson's remarks on this species, in the Challenger Report, seem to me to be quite erroneous. Dunker, who obtained several unlocalised Sydney shells, has evidently figured this as his *B. parvulum*, but as that was preoccupied, his name has but an historical interest.

---

* Dall, U.S. Fish Commission, Bulletin, 1901, p.405; Pace, Proc. Malac. Soc., v., 1902, p.77.

Pyrene alizonæ Melvill & Standen.

Columbella (*Mitrella*) *alizonæ* Melvill & Standen, Proc. Zool. Soc., 1901, p. 402, Pl. xxi., fig. 5.

This species has not hitherto been recognised in Australia. By comparison with authentic specimens from the Persian Gulf, I have identified two specimens collected by myself on the western beach at Dunk Island, Queensland; and one from the Six-mile beach, Port Stephens, N. S. Wales, received from Mr. J. Brazier.

Pyrene beddomei Petterd.

Columbella attenuata Angas, Proc. Zool. Soc., 1871, p. 14, Pl. i., fig. 4; Not *Columbella attenuata* Beyrich, 1854, Pace, Proc. Malac. Soc., v., 1902, p. 57.

Terebra beddomei Petterd, Journ. of Conch., iv., 1884, p. 142.

In the British Museum are five *attenuata* from Sydney, presented by Angas in 1871, and, therefore, probably types, but not so marked. Pace shows that this name was previously used by Beyrich in 1854, so it becomes necessary to revive Petterd's name, *T. beddomei*, generally acknowledged as a synonym.

Pyrene acleonta Duclos.

Columbella acleonta Duclos, Monog. Columbella, 1840, Pl. xi., fig. 3, 4; *Id.*, Chenu, Illust. Conch. Columbella, Pl. xi., fig. 3, 4, (length mark added), 1846; *Id.*, Pace, Proc. Mal. Soc., v., 1902, p. 48.

Columbella jaspidea Sowerby, Proc. Zool. Soc., 1844, p. 50; *Id.*, Thes. Conch., i., 1844, p. 132 bis, Pl. xxxix., fig. 125; *Id.*, Reeve, Conch. Ic., xi., 1858, Pl. xvii., fig. 90; *Id.*, Kobelt, Conch. Cab., iii., 1893, p. 131, Pl. xix., figs. 5-8; *Id.*, Hervier, Journ. de Conch. xlvii., 1899, p. 356; *Id.*, Shirley, Proc. Roy. Soc. Q'sland, xxiii., 1911, p. 101.

Columbella plicaria Montrouzier, Journ. de Conch., x., 1862, p. 234, Pl. ix., fig. 3; *Id.*, Brazier, Journ. of Conch. ii., 1879, p. 188; *Id.*, Pace, Journ. de Conch, l., 1902, p. 419; *Id.*, Smith, Fauna Maldive Lacc. Arch. ii., 1906, p. 608.

As *C. plicaria,* Brazier recorded from Fitzroy Island, a species not previously noted as Australian. Smith and Pace state that *C. plicaria* is merely a variety of *jaspidea.* I now suggest that the latter is a synonym of the long-lost *C. acleonta* Duclos. If von Martens was correct in referring the related *C. marquesa* Gaskain to *Daphnella,** then the present species will probably accompany it. I have collected *C. acleonta* on Murray and Palm Islands, and have seen it from Bungaree Norah, N.S.Wales.

Pyrene punctata Bruguière.

Buccinum punctatum Bruguière, Ency. Méth. Vers, i., 1789, p. 281, Pl. 374, figs. 4, a, b.

Voluta discors Gmelin, Syst. Nat. xiii., 1791, p. 3455, for Martini iv., Pl. 150, fig. 1405.

Pyrene rhombiferum Bolten, Mus. Bolt., 1798, p. 134, for Martini, ii., Pl. 44, fig. 465.

Columbella semipunctata Lamarck, Anim. s. vert. vii., 1822, p. 294; *Id.,* Brazier, Journ. of Conch., ii., 1879, p. 188.

Columbella discors Kobelt, Conch. Cab. iii., 1897, p. 18, Pl. ii., figs. 17, 18; *Id.,* Dautzenberg, Journ. de Conch. lviii., 1910, p. 27.

Pyrene discors Shirley, Proc. Roy. Soc. Q'sland, xxiii., 1911, p. 101.

Under the name of *Columbella semipunctata,* this was first reported as Australian by Brazier, who found it on Fitzroy Island. Shirley reported it from Bowen. I have found it on Mornington Island, Gulf of Carpentaria, and have seen it from Port Essington, Northern Territory. Following the suggestion of Deshayes, museums and monographs have generally but erroneously preferred the name of Gmelin to that of Bruguière. This species is the type of the genus *Pyrene,* which can be maintained apart from *Columbella.* The latter has, for its type, the common West Indian *C. mercatoria* Linné, which Dr. Shirley pretends to occur at Bowen, Queensland.

---

* Von Martens, Fauna Mauritius, 1880, p.228.

Pyrene vittata Reeve.

Columbella vittata Reeve, Conch. Icon., xi., 1859, Pl. xxx., fig. 192.

C. vincta Tate, Trans. Roy. Soc. S.A., xvii., 1893, p. 190, Pl. i., fig. 11; *Id.*, Pritchard & Gatliff, Proc. Roy. Soc. Vict. xi., 1899, p. 202; *Id.*, May, Proc. Roy. Soc. Tasm., 1902, (1903), p. 109; *Id.*, Verco, Trans. Roy. Soc. S.A., xxxiv., 1910, p. 133.

In the British Museum there is one *C. vittata*, perhaps type, but not so marked, labelled, "Isle of Luzon, Philippines, stones low water, H.C." Again, there are three shells, not types, labelled "vittata Reeve, Oyster Cove, V.D.L., Joseph Milligan, Esq." The Philippine habitat is repeated but not confirmed by Hidalgo. Milligan's specimens are certainly *C. vincta* of Tate. A series of *C. roblini* Tenison-Woods from Kelso, Tasmania, presented by J. H. Ponsonby, seem similar.

Pritchard and Gatliff have placed *C. vincta* as a synonym of *C. nubeculata* Reeve, but the type of *nubeculata*, in the British Museum, has a prominent tubercle at one-third the length of the aperture, is less than half the length, and altogether unlike *vincta*. Probably *C. nubeculata* is not an Australian species. Their error has misled Dr. Verco also.

With *C. vincta*, May has identified *C. irrorata* Reeve. But the type of that, in the British Museum, is equally distinct, being twice the length of *C. vincta*, and very sharply pointed.

Pyrene pulla Gaskoin.

Columbella pulla Gaskoin, Proc. Zool. Soc., 1851 (1852), p. 6; *Id.*, Reeve, Conch. Icon. xi., 1858, Pl. xix., fig. 106; *Id.*, Angas, Proc. Zool. Soc., 1867, p. 195.

In the British Museum are five "pulla Gask., Australia, Strange, M.C." This species is about half an inch long, rather elongate-conical, purplish-brown with a buff snout, the latter delicately and obliquely grooved. Another set of fifteen labelled "pulla Gask. (?), Oyster Cove, V.D. Ld., Joseph Milligan, Esq.," are *P. tenebrica*, by comparison with the type of that species. The latter differs by being smaller, two-thirds the length of *pulla*; it has not

the pale snout of *pulla*, but has faint longitudinal stripes. This species has not, I think, been recorded for Tasmania.

But *C. pulla* is nothing like *Columbella nux* Reeve, with which Tryon, Pritchard and Gatliff, have associated it. I saw the type of *C. nux*, which may be described as a worn and monochrome specimen of *C. infumata* Crosse. On the other hand, *C. badia* Ten.-Woods seems to be a variety of *C. pulla*, as it was considered by those authors.

ÆSOPUS AUSTRALIS Angas.

Truncaria australis Angas, Proc. Zool. Soc., 1877, p. 172, Pl. xxvi., fig. 5.

According to the arrangement adopted in the British Museum, *Truncaria australis* Angas, is transferred to the genus *Æsopus*. In this change it is accompanied by *Columbella plurisulcata* Reeve. What appears to be a large form of *Æ. australis*, from Singapore, has been sent to me by Mr. H. B. Preston. Dr. Dall has indicated that the genus *Truncaria* should be restricted to the type-species, *T. filosa* Ad. & Reeve,* and another described by himself.

ÆSOPUS CUMINGI Reeve.

Columbella cumingi Reeve, Conch. Icon. xi., 1859, Pl. xxv., fig. 156; *Id.*, von Martens, Fauna Mauritius, 1880, p. 248, Pl. xx., fig. 11.

Specimens from Caloundra, Queensland, were compared with the types of Reeve's species from the Philippine Islands. The Australian shells are half the length of the types. In the Philippine specimens, the filleted bands of brown and orange are more distinct than in the Australian examples. The sculpture and other details correspond, and the two are, I think, specifically identical. As a local race, the Caloundra form may be distinguished as var. *queenslandica*, var.n.

ZAFRA A. Adams.

Zafra A. Adams, Ann. Nat. Hist., (3), iv., 1860, p. 331. Type *Z. mitriformis*, Smith, Proc. Zool. Soc., 1879, p. 209. Not *Zafra* H. Adams, Proc. Zool., 1872, p. 14.

---

* Dall, Bull. Mus. Comp. Zool., xliii., 1908, p.304.

This genus has been neglected and misunderstood. Here H. Adams referred a new species, *Zafra pupoidea,* thereby misleading Nevill, Fischer, and Tryon to transfer *Zafra* to the Pleurotomidæ, with *Z. pupoidea* for type. But H. Adams emphasised his own error by noting that *Seminella* of Pease [type, *Columbella garretti,* Tryon] was equivalent to *Zafra.* Another name for "the minute ribbed Columbellidæ occurring in the Indo-Pacific region" is *Citharopsis* Pease, type *Columbella lachryma* Reeve. (*Mitra lachryma* Reeve, 1845 = *Columbella pamila* Chenu, 1848.)

It was suggested to me, by Mr. Tom Iredale, that *Zafra* could be suitably employed for certain Australian shells. Accordingly I propose to transfer to it the following species:—

Columbella abyssicola Brazier, 1877.
Mangilia atkinsoni Ten.-Woods, 1876.
Pyrene beachportensis Verco, 1910.
Columbella darwini Angas, 1877.
Columbella digglesi Brazier, 1874.
Pyrene dolicha Verco, 1910.
Pyrene fenestrata Verco, 1910.
Columbella franklinensis Gatliff & Gabriel, 1910.
Columbella fulgida Reeve, 1859.
Col. gowlandi Brazier, 1874.
Pyrene jaffaensis Verco, 1910.
Col. legrandi T.-Woods, 1876.
Pyrene lurida Hedley, 1907.
Col. melvilli Hedley, 1899.
Col. peasei Mart. & Langk., 1871.
Col. regulus Souverbie, 1863.
Col. remoensis Gat.&Gab., 1910.
Col. russelli Brazier, 1874.
Col. smithi Angas, 1877.
Col. troglodytes Souverbie, 1866.

Zafra fulgida Reeve.

Columbella fulgida Reeve, Conch. Icon. xi., 1859, Pl. xxviii., fig. 178.

C. interrupta Angas, Proc. Zool. Soc., 1865, p.56, Pl. ii., fig.9-10.

Pyrene angasi Verco, Trans. Roy. Soc. S.A., xxxiv., 1910, p.137.

In the British Museum, I found four, labelled, "type, fulgida Reeve, Conch. Ic. xi., sp. 178, Port Lincoln;" also thirteen "Columbella minuta Gaskoin, = C. fulgida Reeve, C.I. sp. 179, Adelaide, Australia." Both tablets certainly represent a species universally known in Australia, as *Columbella angasi* Brazier. The localities of the types of *fulgida* and *interrupta* (= *angasi*) are but a few miles apart. Gaskoin never published *C. minuta.*

Reeve's figure of *C. fulgida* is so poor that, without the aid of the actual type, I did not recognise it. No intimation is given that the figure of *C. fulgida* is enlarged, but on the same plate, and also without notice of enlargement, are *rorida* Reeve, *lunata* Say, and *diminuta* Adams, each in nature about 5 mm. long, and magnified three or four diameters. This agrees with the presumption that *C. fulgida* is also enlarged four diameters. The drawing of *C. fulgida* is too slender, and the number of whorls are incorrectly indicated. But the same errors are repeated in the case of *rorida* immediately above *C. fulgida.*

Retizafra, subgen.nov.

For some small "Columbella" which do not quite conform to *Zafra,* I suggest a division *Retizafra.*

In size and form they correspond, but differ by clathrate sculpture. Also the *Retizafra* usually inhabit deeper water. Type, *Pyrene gemmulifera* Hedley, 1907. Other members are *Pyrene calva* Verco, 1910; *Pyrene intricata* Hedley, 1912; *Columbella plexa* Hedley, 1902; and the Lifuan *Columbella brevissima* Hervier, 1899.

Murex serotinus A. Adams.

(Plate xix., figs. 78, 79.)

Murex serotinus A. Adams, Proc. Zool. Soc., 1851,(1853), p.268; *Id.,* Angas, Proc. Zool. Soc., 1865, p. 154; *Id.,* Sowerby, Thes. Conch., iv., 1879, Murex index, p. 54; *Id.,* Tryon, Man. Conch., ii., 1880, p. 135; *Id.,* Verco, Trans. Roy. Soc. S.A., xix., 1895, p. 96.

Under the name of *Murex serotinus* A. Ad., three species are exhibited in the British Museum. The first (my fig. 78), a lot of four, is marked type "Murex serotinus, A. Ad., P.Z.S.,1851, p. 268, Hab. (?), M.C." The second (my fig. 79), is marked "(?) serotinus A. Ad., Aldinga. From the Colln. of H. Adams."

As Dr. Verco remarked, "No other collectors have taken it in Australia," the inference being that the species is exotic. It would, therefore, be a convenient riddance to accept Sowerby's reference of *serotinus* to the Mediterranean *Muricopsis blainvillei* Payrau-

deau, though the British Museum specimens of that protean species do not exactly correspond.

Murex acanthopterus Lamarck.

Murex acanthopterus Lamarck, Anim. s. vert., vii., 1822, p. 165; Encyl. Méth., Pl. 417, fig. 2.

Murex saibaiensis Melvill & Standen, Journ. Linn. Soc., Zool. xxvii., 1899, p. 161, Pl. x., fig. 1.

In the British Museum is one specimen marked as the type of *M. saibaiensis*, from Torres Straits, which corresponds to others labelled *M. acanthopterus*. And in the Geneva Museum, I found Lamarck's type of *M. acanthopterus* still preserved. Comparing the shell of Lamarck with the illustration of Melvill and Standen, I found that the shell from Torres Straits was half the length of Lamarck's type, but otherwise identical. By Lamarck's name, the species was previously reported from Torres Strait by the Challenger Expedition. The name should be ascribed to Lamarck, not, as is sometimes done, to Schroeter.

Trophon petterdi Crosse.

Trophon petterdi Crosse, Journ. de Conch., xviii., 1870, p. 303; xix., 1871, p. 324, Pl. 12, fig. 2; *Id.*, Pritchard & Gatliff, Proc. Roy. Soc. Vict., x., 1898, p. 256; *Id.*, Sykes, Proc. Malac. Soc., iv., 1900, p. 39.

Murex pettardi Sowerby, Thes. Conch., iv., 1879, p. 48, Pl. 403, fig. 255.

Under the genus Murex, I found, in the British Museum, two shells labelled "Pettardi Brazier, Tasmania. From the Colln. of H. Adams, acquired 78/1/28." Mr. E. A. Smith agreed that this was the original of Sowerby's figure. This, as Pritchard and Gatliff have already noted, should be included in the synonymy of Crosse's species. *M. cristatus* Brocchi has been unfortunately associated with *T. petterdi* by Mr. Sykes.

Craspedotriton speciosus Angas.

Murex scalarinus A. Adams, Proc. Zool. Soc., 1863, p. 508; Not *Murex scalarinus* Bivona, Gen. e sp. Moll., 1832, p. 27, Pl. iii., fig. 11.

Triton speciosus Angas, Proc. Zool. Soc., 1871, p. 13, Pl.i., fig.7; *Id.*, Kesteven, These Proceedings, xxvi., 1902, p. 713, Pl. xxvi., figs. 10, 11, and xxvii., 1902, p. 479, fig. 3.

Trophon eburnea Petterd, Journ. of Conch.,iv., 1884, p.142; *Id.*, Pritchard & Gatliff, Proc. Roy. Soc. Vict., x., 1898, p. 258; *Id.*, Tate & May, These Proceedings, xxvi., p. 357, text-fig. 1.

In the British Museum are exhibited a series of three, marked "types, scalarinus A. Adams, P.Z.S., 1863, p.508, = Triton(Cumia) speciosa Angas, P.Z.S., 1871, p. 13, Pl. i., f. 7. Port Jackson." Beside these, another series of three, the types of *speciosa*, are marked "= scalarinus A. Adams."

It was characteristic that A. Adams should fail to observe that the *Triton speciosus* of his literary partner Angas, was his own *Murex scalarinus*. Having left his species, in the wrong genus, unfigured, unlocalised, known and knowable only to those who saw the type, Arthur Adams fortunately crowned his work by the adoption of a preoccupied name. Hence we are relieved from the necessity of following the British Museum procedure, and abolishing the well-worn name of *speciosus*.

Under the genus *Craspedotriton* Dall, the British Museum includes this species in association with *convolutus* Brod., and *scalariformis* Brod. While agreeing with the reference to *Craspedotriton*, I would suggest that the information on the apex, radula, and operculum of *speciosus*, supplied by Kesteven, supports a transference of Dall's genus from the neighbourhood of Triton to that of Trophon. Petterd's *T. eburnea* represents a comparatively smooth southern form of *C. speciosus*.

Craspedotriton fimbriatus Lamarck.

Murex fimbriatus Lamarck, Anim. s. vert., vii., 1822, p. 176; *Id.*, Deshayes, op. cit. (2), ix., 1843, p. 599. Reeve, Conch. Icon., iii., 1846, Ricinula, sp. 28.

Murex planiliratus Reeve, Conch. Icon., iii., 1845, Pl. 31, fig.149; *Id.*, Hedley, These Proceedings, xxvi., 1902, p. 700.

Deshayes has commented on the loss of the identity of this species, which, after a disappearance of ninety years, it is my good

fortune to restore to its proper position. Conchological science is indebted to the administration of the Geneva Museum for the admirable care with which the Lamarckian collection is preserved. The types of *M. fimbriatus* consist of two specimens, one perfect, the other incomplete. Contrasting, in the Geneva Museum, the former with Reeve's plate, I found it to correspond exactly.

In the British Museum, I saw three, perhaps types, but not so marked, labelled "planiliratus Reeve, Swan R., M.C." In London, I also saw one, marked type "Murex polypleura Brazier, Port Lincoln, S. Australia. Pres. J. Brazier, 95/3/7." Again, one as type of Brazier's pink variety. I have already noted the identity of *polypleurus* and *planiliratus*.

Craspedotriton pholidotus Watson.

Murex pholidotus Watson, Journ. Linn. Soc. Zool., xvi., 1883, p. 62; Chall. Zool., xv., 1886, p. 158, Pl. x., fig. 3.

(?) *Fusus cereus* Smith, Zool. Coll. Alert, 1884, p. 46, Pl. v., fig. D.

It is now suggested that *Murex pholidotus* Watson, may also be added to *Craspedotriton*. Perhaps *Fusus cereus* Smith, is identical with that Challenger species. The material in the British Museum under these names is not sufficient to reach a satisfactory conclusion. Perhaps *Murex brazieri* Angas, should also be inserted in this genus.

Trophon recurvus Philippi.

Fusus recurvus Phil., Abbild. Beschr., ii., 1846, p. 119, Fusus, Pl. iii., fig. 6.

Trophon paivæ Crosse, Journ. de Conch., xii., 1864, p. 278, Pl. xi., fig. 7; *Id.*, Tryon, Man. Conch., ii., 1880, p. 155.

By Tryon, *T. paivæ* Crosse was united to *T. hanleyi* Angas, a decision which has misled Australian collectors. In the British Museum are six specimens marked type "Trophon paivæ Crosse, York's Peninsula, South Australia. Pres. G. F. Angas, 70/10/26." There are also five shells marked type, and labelled "Fusus hanleyi Angas, P.Z.S., 1867, p. 110, Pl. xiii., fig. 1. Pres. G. F. Angas,

70/10/26." Not only are these two clearly distinct, but *T. paivæ* so closely agrees with other specimens determined as *T. recurvus* Koch, that I consider that the name given by Crosse should be regarded as a synonym of *T. recurvus*. Probably when Prof. Hutton* wrote that *Trophon paivæ* belonged to his new genus *Kalydon*, he intended to refer to *T. hanleyi*.

Kalydon vinosus Lamarck.

Buccinum vinosum Lamarck, Anim. s. vert. vii., 1822, p. 275.

Ricinula adelaidensis (var.) Crosse & Fischer, Journ. de Conch. xiii., 1865, p. 50, Pl. ii., fig. 1.

Purpura littorinoides Ten.-Woods, Proc. Roy. Soc. Tasmania, 1875, p. 135.

No writer subsequent to Lamarck has identified this Australian species. In the Geneva Museum are three specimens, apparently cotypes of *Buccinum vinosum*. A note beneath the tablet, perhaps by Kiener or Chenu, remarks that these specimens do not conform to Lamarck's phrase, "labro intus striato."

By the kind help of Mr. W. L. May I sent a series of Tasmanian *R. adelaidensis*, exhibiting range of variation, to Geneva. From these my correspondent picked out a form representing *P. littorinoides* Ten.-Woods with the assurance that this perfectly corresponded to the Lamarckian types of *B. vinosum*. Other varieties of this species are represented by *Ricinula adelaidensis* Crosse & Fischer, *Cominella albolirata* T.-Woods and *Purpura propinqua* T.-Woods. Examples of the latter, which I gathered at Huskisson, Jervis Bay, mark the eastern limit of the species.

Rapa incurva Dunker.

Bulbus incurvus Dunker, Zeit. f. malak., 1852, p. 126; *Id.*, Novit. Conch, 1858, p. 17, Pl. v., fig. 34; *Id.*, Crosse, Journ. de Conch. xxxii., 1884, p. 12.

In the British Museum are two shells from "Raines islet, N.E.C. Australia, J. B. Jukes," and two "N. Australia, Mrs. Ince," in the labels of which "rapa" has been struck out, and "incurva Dkr."

* Hutton, Trans. N.Z. Inst., xvi., 1884, p.220.

substituted. Crosse has hinted that *incurva* may be but a variety of *R. rapa*. At any rate, typical *Rapa rapa* Linné (compared by Hanley to Kiener, Pyrula, Pl. xiv., fig. 2) also occurs in Queensland.

Rapana nodosa A. Adams.

(Plate xix., fig. 80.)

Rapana nodosa A. Adams, Proc. Zool. Soc., 1853 (1854), p. 98; *Id.*, Angas, Proc. Zool. Soc., 1867, p. 192.

Latiaxis nodosa Gray, Ann. Mag. Nat. Hist. (3), xx., 1867, p. 78; Id., Brazier, Journ. of Conch., vi., 1889, p. 67; *Id.*, Sowerby, Thes. Conch., v., 1882, p. 4, Pl. 424, fig. 17; *Id.*, Pritchard & Gatliff, Proc. Roy. Soc. Vict., x., 1898, p. 262.

In the British Museum are two shells, which Mr. E. A. Smith identified as types of *R. nodosa*. These are said to be from the Philippines, and mounted with them is a larger (22 × 14 mm.) specimen from Port Jackson. Personally, I think that the Philippine locality is erroneous, and that all three are Sydney shells. Sowerby's figure in the Thesaurus is so unlike, that it might have been derived from another species. One of the original Cumingian pair, 20 mm. long by 11·5 mm. broad, is here figured.

On a single, immature, encrusted, and distorted shell, Pritchard and Gatliff based *Coralliophila wilsoni*,* from Port Phillip. This they afterwards united to *C. rubrococcinea* Melvill & Standen, from the Persian Gulf. The material I have examined is insufficient for a final conclusion, but I am disposed to consider that *C. wilsoni* will prove identical with *R. nodosa*, but distinct from *C. rubrococcinea*.

Coralliophila elaborata H. & A. Adams.

(Plate xix., fig. 81.)

Coralliophila elaborata H. & A. Adams, Proc. Zool. Soc., 1863, p. 433; *Id.*, Verco, Trans. Roy. Soc. S.A., xxxii., 1908, p. 344.

In the British Museum are three, probably types, but not so marked, labelled, "elaborata H. & A. Adams, Sandwich Is." From

---

*Pritchard & Gatliff, Proc. Roy. Soc. Vict., x., 1898, p.140, Pl. xx., figs.8, 9; and xxiv., 1911, p.193.

one of these, an inch broad, an inch and a half long, my figure is derived. Mr. J. C. Gabriel is responsible for including this as an Australian species. My figure does not well agree with the shell to which he referred.

Cassidula decussata H. & A. Adams.

(Plate xix., figs. 82, 83.)

Cassidula decussata H.& A. Adams, Proc. Zool. Soc.,1854(1855), p. 32.

This Australian species has not been previously figured. The present drawing is of one in a lot of three, in the British Museum, marked types. It is in length 12 mm., in breadth, 7 mm., and labelled "Cassidula decussata H. & A. Ad., P.Z.S., 1854, p. 32, Hab., Moreton Bay, M.C."

Cassidula sowerbyana Pfeiffer* has been confused both with *C. decussata* and *C. doliolum*. But, on assembling these notes, I find that I failed to observe their differential characters.

Cassidula doliolum Petit.

(Plate xix., fig. 84.)

Auricula doliolum Petit, Proc. Zool. Soc., 1842, p. 201.

Cassidula doliolum Pfeiffer, Cat. Auricul. in Brit. Mus., 1857, p. 83.

In the British Museum are three, perhaps types, but not so marked, labelled, "doliolum Petit, M.C." These are 9 mm. long, and 6 mm. broad. One of them is here represented.

An unnamed form of the same species is only marked "Australia." It is larger, viz., 13 mm. long, and 7 mm. broad, and has the colouring of *C. zonata,* from which a mucronate apex and four alternately larger and smaller denticles within the outer lip, distinguish it.

Leuconopsis pellucidus Cooper.

(Plate xix., fig. 85.)

Auricula pellucida Daniel Cooper, Microscopic Journ. i., Jan. 1841, p. 16; *Id.,* Pfeiffer, Cat. Auric. Brit. Mus., 1857, p. 109; *Id.*.

* Tapparone-Canefri, Ann. Mus. Genoa, xix., 1883, p.227, text-fig; and von Martens, Weber's Zool. Ergebnisse, iv., 1897, p.147, Pl. viii., fig.3.

H. & A. Adams, Proc. Zool. Soc., 1854 (1855), p. 11; *Id.,* Pfeiffer, Mon. Auric., p. 58; *Id.,* Gatliff, Victorian Naturalist, xxii., 1905, p. 16.

In the British Museum are four specimens mounted on a glass slide, presented by D. Cooper and evidently types. These were said to have been picked out of "sand from Van Diemen's Land." One of them is here figured.

Tenison-Woods, Tate, May, and Gatliff have assumed that *A. pellucida* is a synonym of *Marinula patula.* But the species proves to be a *Leuconopsis,* smaller than *L. inermis* Hedley. After comparison in the British Museum with all the other members of the genus except *L. victoriæ* Gatliff, which is absent from that collection, I found *L. pellucidus* distinct.

Probably this is the species catalogued by Tate and May as "*Ophicardelus minor*" from the Tamar Heads.

Ophicardelus sulcatus H. & A. Adams.

(Plate xix., fig. 86.)

Ophicardelus sulcatus H. & A. Adams, Proc. Zool. Soc., 1854 (1855), p. 34; *Id.,* Angas, Proc. Zool. Soc., 1867, p. 231.

In the British Museum are five shells, which Mr. E. A. Smith considered to be types, marked, "Laim. sulcata H. & A. Ad., P.Z.S., 1854, New Zealand, M.C." This species, in some respects, is like *O. ornatus,* but it has a shorter spire, furrowed with spiral grooves, five on the last whorl and three on the penultimate. The shell is 14 mm. long, and 8 mm. broad.

Ophicardelus quoyi H. & A. Adams.

(Plate xix., fig. 87.)

Ophicardelus quoyi H. & A. Adams, Proc. Zool. Soc.,1854(1855), p. 34; *Id.,* Angas, Proc. Zool. Soc., 1867, p. 231.

Melampus quoyi Pfeiffer, Cat. Auricul. Brit. Mus., 1857, p. 37.

There are, in the British Museum, nine shells of this species, which Mr. E. A. Smith regarded as types, labelled Moreton Bay. These are 13 mm. long, and 7 mm. broad. One of them is here figured. I think that the species extends to New Zealand.

Ophicardelus stutchburyi Pfeiffer.

(Plate xix., fig. 88.)

Melampus stutchburyi Pfeiffer, Proc. Zool. Soc., 1856 (1857), p. 393; *Id.*, Gassies, Faun. Conchyl. Nouv. Caled., 1871, p. 105; *Id.*, Brazier, These Proceedings, ii., 1878, p. 134.

This species is represented in the British Museum by a set of six, marked types, and labelled "Melampus stutchburyi Pfr., P.Z.S., 1856, p. 393. Mr. Stutchbury, M.C."

Gassies erroneously united this with the Tasmanian *O. ornatus*, but it is far closer to *O. sulcatus*.

These type-shells are 17 mm. long, and 9 mm. broad. In colour, they vary from brown with a narrow white line on the shoulder, to white with three revolving brown lines.

Ophicardelus ornatus Férussac.

Auricula ornata Férussac, Tab. Syst. 1821, p.103, fide Potiez & Michaud.

Auricula ovata Gray, Spicil. Zool., i., 1828, p.5, Pl.6, f.21; not *Auricula ovata* Lamarck, 1806.

Auricula australis Quoy & Gaim., Zool. Astrolabe, ii., 1832, p.169, Pl. xiii., figs.34-38; Crosse, Journ. de Conch., xlii., 1894, p.320.

Auricula bidens Potiez and Michaud, Gal. de Douai, i., 1838, p.201, Pl. xx., f.9-10.

Melampus tetricus Morelet, Journ. de Conch., xii.,1864, p. 290.

Ophicardelus irregularis Mousson, and *O. minor* Mousson, Journ. de Conch., xvii., 1869, pp.64, 65, Pl. v., figs.2, 3.

In the British Museum are three, marked type, labelled "*Mel. tetricus*, Morelet, Nlle. Galles du Sud. J.d.C., 1864, p.290." This unfigured species proves to be a squat variety of *O. ornatus*.

Judging from specimens from the type-locality, and from the figures and descriptions, I consider that *O. irregularis* and *O. minor* are abnormal or deformed specimens of *O. ornatus*.

Seeing that Quoy & Gaimard obtained their types of *O. australis* near Hobart and in Western Port, it is improbable that Crosse was correct in recording that from New Caledonia.

Leucotina pura A. Adams.

Monoptygma pura A. Adams, Thes. Conch., ii., 1854, p.820, Pl. 172, fig.23.

Leucotina esther Angas, Proc. Zool. Soc., 1867, p.116, Pl. xiii., fig.31.

In the British Museum, is a single shell, marked type, and labelled "pura A.Ad., Thes. ii., p.820, pl.172, fig.23." This is said to be from New Zealand, and is specifically identical with two marked type, and labelled "Leucotina esther Angas, Port Jackson, Pres. G. F. Angas, 70/10/26."

In general appearance this is like one in the British Museum, marked type of *Monoptygma concinna*, from Moreton Bay. In comparison with that, *L. esther* is shorter, broader, and has finer sculpture.

Leucotina amœna A. Adams.

Monoptygma amœna A. Adams, Proc. Zool. Soc. 1851 (1853), p.223; *Id.*, Thes. Conch., ii., 1854, p.818, Pl.172, fig.21.

Myonia amœna Cooke, Ann. Mag. N. H.(5), xvi., 1885, p.41.

Pyramidella amœna Dall & Bartsch, Proc. U. S. Nat. Mus., xxx., 1906, p.330, Pl. xix., fig.1.

Angas has recorded* *Myonia concinna* from Port Jackson. He presented to the British Museum the shell he thus named, which is now corrected to "Monopt. amoena A.Ad., var." A specimen of this species, which I obtained in Port Jackson, approaches nearer to Adams' Philippine type of *amœna* than the shell of Angas does.

Although the record by Angas of *L. concinna* from this State is thus shown to be incorrect, that species really inhabits our coast. Forbes had previously noted† "Monotigma" casta from Port Jackson, 6 fth. Mr. E. A. Smith‡ explains that in this genus, *casta* of Adams is anticipated by an earlier *casta* of Hinds, transferred from *Daphnella* to *Leucotina*. Therefore the synonymous *L. concinna* comes into service.

---

* Angas, Proc. Zool. Soc., 1867, p.225.

† Forbes, Voy. Rattlesnake, ii., 1852, p.365.

‡ Smith, Ann. Natal Mus., ii., 1910, p.183.

Perhaps the record by Angas* of *M. speciosa* A. Adams, from the Lane Cove, is another error for *amœna*.

Ringicula denticulata Gould.

Ringicula denticulata Gould, Proc. Bost. Soc. Nat. Hist., vii., 1860, p.325.

Ringicula caron Angas (not Hinds), Proc. Zool. Soc., 1871, p.98.

The original of Gould's description was obtained in Port Jackson by Dr. W. Stimpson, and is still preserved in the National Museum at Washington. In the British Museum are four exactly similar specimens, probably cotypes, labelled "R. denticulata, Otia, p.121, Port Jackson, M.C."

Angas has recorded *Ringicula caron* Hinds, as dredged by Brazier in 10 fathoms off Goat Island, Sydney Harbour. There is in the British Museum one, perhaps type, but not so marked, labelled "R. caron Hinds, P.Z.S., 1844, p 97, Str. of Malacca. M.C." This is smaller than *denticulata*, with widely spaced, engraved spirals, and sharply pointed spire. Angas presented, to the British Museum, the shell he had identified as *R. caron* Hinds. By comparison of the authentic material described above, this is certainly not *R. caron*, but is certainly *R. denticulata*. The record of Angas is, therefore, to be erased.

Ringicula doliaris Gould.

Ringicula doliaris Gould, Proc. Bost. Soc. Nat. Hist., vii., 1860, p.324; *Id.*, Watson, Chall. Rep. Zool., xv., 1886, p.634, Pl. xlvii., fig.8.

Ringicula arctata Angas (not Gould), Proc. Zool. Soc., 1871, p.98.

In the British Museum there are four, probably cotypes, of *R. doliaris* Gould. These are light and thin, like my *R. semisculpta*, but have spirals above as well as below, and a tooth on the body-whorl. Angas catalogued *R. arctata* Gould, as taken by Brazier off Goat Island, Sydney Harbour. The Sydney specimen, which Angas presented to the British Museum as *R. arctata*, does not

* Angas, Proc. Zool. Soc., 1871, p.98.

agree with typical specimens of that species from Hong Kong. I consider that it is an example of *R. doliaris* with an unusually thickened lip. So *R. arctata* Gould, can be eliminated from the fauna of this State.

Retusa apicina Gould.

Tornatina apicina Gould, Proc. Bost. Soc. Nat. Hist., vii., 1859, p.139.

T. brenchleyi Angas, Proc. Zool. Soc., 1877, p.40, Pl.5, f.20.

Utriculus avenarius Watson, Journ. Linn. Soc. Zool., xvii., 1883, p.328; *Id.*, Chall. Rep. Zool., xv., 1886, p.658, Pl.49, f.5.

T. fusiformis Angas, not Adams, Proc. Zool. Soc., 1878, p.869.

In the British Museum are two specimens of *T. brenchleyi* Angas, from 10 faths., Sydney, presented by J. Brenchley, in 1873. Though not so marked, these are obviously the types of Angas. They seem to me to be identical with the types, four specimens, of *T. avenarius* Watson, collected by the Challenger Expedition, in 10 faths., Sydney. With these agrees a photograph of *T. apicina* Gould, from the same habitat, kindly taken for me from the type in the National Museum, Washington, by Dr. Paul Bartsch.

From the China Sea are six shells marked, in the British Museum, as the types of *Tornatina fusiformis* A. Adams. These have an upright, projecting, heterostrophe apex, and arcuate longitudinal riblets. I think that Angas was mistaken in identifying this with an Australian shell. Cook* considered that *T. fusiformis* was *T. olivæformis* Issel.

Retusa decussata A. Adams.

Bulla (*Cylichna*) *decussata* A. Adams, Thes. Conch., ii., 1850, p.594, Pl.125, f.147; *Id.*, Brazier, These Proceedings, ii., 1877, p.80.

Retusa impasta Hedley, These Proceedings, xxxiv., 1909, p.463, Pl. xliv., f.101.

In the British Museum, I noticed five, marked "types C. decussata A. Adams, Thes., &c., China Seas. M.C." These appeared to me like *R. impasta*, so that, after my return to Sydney,

* Cook, Ann. Mag. Nat. Hist., xviii., 1886, p.129.

I sent examples of the latter to London for comparison. Mr. G. C. Robson replies: "The sculpture of Adams' species is more strongly marked than that of yours, but whatever differences there are, I do not hold them to be sufficient to separate the species upon." Under these circumstances, I withdraw the name I proposed.

EXPLANATION OF PLATES XVI.-XIX.

Plate xvi.

Figs. 1,2,3.—*Nucula consobrina* Ad. & Angas, from the type.

Figs. 4,5,6.—*Nucula simplex* A. Adams, from the type.

Figs. 7,8,9.—*Nucula cumingii* Hinds, from the type of *Nucula loringi* Ad. & Angas.

Fig. 10.—*Myrtœa venusta* Philippi, from the type of *Lucina strangei* A. Adams.

Figs. 11,12,13,14,15.—*Joannisiella moretonensis* Deshayes, from the type of *Cyrenella moretonensis.*

Figs. 16,17,18,19.—*Solecardia strangei* Deshayes, from the type of *Scintilla strangei.*

Figs. 20,21,22.—*Cardium dionæum* Sowerby, from the type of *Cardium productum* Deshayes.

Figs. 23,24.—*Dosinia tenella* Römer, from the type.

Figs. 25,26.—*Venerupis planicosta* Deshayes, from the type.

Figs. 27,28.—*Venerupis subdecussata* Deshayes, from the British Museum example.

Plate xvii.

Figs. 29,30,31,32,33.—*Semele ada* Adams & Angas, from the type.

Figs. 34,35,36,37.—*Semele exarata* Adams & Reeve, from a British Museum example.

Figs. 38,39.—*Donax striatellus* Deshayes, from the British Museum example.

Figs. 40,41,42,43,44.—*Cryptomya elliptica* A. Adams, from the type of *Sphœnia elliptica.*

Fig. 45.—*Clanculus jucundus* Gould, from the British Museum example.

Fig. 46.—*Clanculus conspersus* A. Adams, from a British Museum example.

Fig. 47.—*Calliostoma punctulosus* A. Adams, from a British Museum example.

Fig. 48.—*Cantharidus cingulatus* A. Adams, from the type of *Leiopyrga cingulata.*

Fig. 49.—*Cantharidus pallidulus* A. Adams, from the type.

Fig. 50.—*Leptothyra crassilirata* Preston, from the type.

Fig. 51.—*Littoridina gunnii* Frauenfeld, from a specimen of *Hydrobia gunnii* in the British Museum.

Fig. 52.—*Littoridina diemensis* Frauenfeld, from a specimen of *Amnicola diemense* in the British Museum.

Fig. 53.—*Iravadia clathrata* A. Adams, from a specimen of *Pyrgula clathrata* in the British Museum.

Plate xviii.

Fig. 54.—*Diala suturalis* A. Adams, from a specimen of *Monoptygma suturalis* in the British Museum.

Fig. 55.—*Diala picta* A. Adams, from a specimen in the British Museum.

Fig. 56.—*Diala varia* A. Adams, from a specimen in the British Museum.

Fig 57.—*Diala pulchra* A. Adams, from the type of *Alaba pulchra*.

Fig. 58.—*Diala lauta* A. Adams, from the type.

Fig. 59.—*Diala monile* A. Adams, from the type of *Alaba monile*.

Fig. 60.—*Diala pagodula* A. Adams, from the type of *Alaba pagodula*.

Fig. 61.—*Diala imbricata* A. Adams, from the type of *Alaba imbricata*.

Fig. 62.—*Alaba vibex* A. Adams, from the type.

Fig. 63.—*Plesiotrochus unicinctus* A. Adams, from the type of *Ziziphinus unicinctus*.

Fig. 64.—*Cæcum bimarginatum* Carpenter, from the Australian specimen.

Figs. 65-66.—*Cæcum bimarginatum* Carpenter, from the Singapore specimen.

Fig. 67.—*Cæcum subquadratum* Carpenter, from the type.

Figs. 68-69.—*Cæcum regulare* Carpenter, from the Singapore specimen.

Fig. 70.—*C.* (?) *regulare* from the Australian specimen.

Fig. 71.—*Bivona constrictor* Mörch, from the type.

Plate xix.

Fig. 72.—*Stephopoma tricuspe* Mörch, from the type.

Figs. 73, 74.—Opercula of same.

Fig. 75.—*Mangelia mitralis* Adams & Angas, from the type of *Bela mitralis*.

Fig. 76.—*Mangelia australis* Adams & Angas, from the type of *Bela australis*.

Fig. 77.—*Drillia æmula* Angas, from the type.

Fig. 78.—*Murex serotinus* A. Adams, from the type.

Fig. 79.—British Museum shell marked "(?) serotinus A. Ad., Aldinga."

Fig. 80.—*Rapana nodosa* A. Adams, from the type of *Rapana nodosa*.

Fig. 81.—*Coralliophila elaborata* H. & A. Adams, from the type.

Figs. 82, 83.—*Cassidula decussata* H. & A. Adams, and enlarged sculpture, from one of the types.

Fig. 84.—*Cassidula doliolum* Petit, from one of the types.

Fig. 85.—*Leuconopsis pellucidus* Cooper, from the type of *Auricula pellucida*.

Fig. 86.—*Ophicardelus sulcatus* H. & A. Adams, from the type.

Fig. 87.—*Ophicardelus quoyi* H. & A. Adams, from the type.

Fig. 88.—*Ophicardelus stutchburyi* Pfeiffer, from a specimen in the British Museum.